1983

An Investigation of a Circular Scaling Model Applied to Selected Scales from the MMPI

Joseph F. Smoley
Loyola University Chicago

AN INVESTIGATION OF A CIRCULAR SCALING MODEL APPLIED TO SELECTED SCALES FROM THE MMPI

by

Joseph F. Smoley

A Dissertation Submitted to the Faculty of the Graduate School of Loyola University of Chicago in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

April

1983

ACKNOWLEDGEMENTS

The author wishes to thank his advisor and Director of his dissertation committee, Dr. Samuel T. Mayo, for his support, expertise and valuable suggestions throughout the project. The author extends his appreciation to the other members of his committee, Dr. Jack A. Kavanagh and Dr. Ronald R. Morgan for their guidance and encouragement.

The author also extends sincere appreciation to Dr. Clarence McCormick for his assistance in the computer procedures, analysis of the data and structure of the dissertation topic. Dr. McCormick provided his time and expertise from the very beginning of the project. Without his conceptual expertise, this project could not have been completed.

To the subjects who performed the tedious scaling task, and to the typists who finalized the data into a readable form, thank you all.

Finally, no words can express the deep appreciation owed to his family. A special thank you to them for their understanding, support and strength when the project seemed overwhelming.

VITA

The author, Joseph F. Smoley, was born on July 3, 1948. He lived in Chicago, Illinois until 1959, at which time he moved to Wonder Lake, Illinois. After five years in Wisconsin he returned to Illinois and currently resides in Wilmette, Illinois.

His elementary education was obtained at Our Lady Help of Christians Elementary School, Chicago, Illinois through grade five. He finished his elementary education at the Wonder Lake Elementary School, Wonder Lake, Illinois. He received his high school diploma from Marian Central Catholic High School in Woodstock, Illinois, in May, 1966.

He attended Northland College, Ashland, Wisconsin from January, 1967, until June, 1971. He was graduated with a Bachelor of Arts in Psychology. He began his graduate work at Loyola University in September, 1972. He completed his masters degree at Loyola University in Educational Psychology in May, 1975.

He began his doctoral studies in 1976 in the Educational Foundations Department of Loyola University of Chicago. His major area of concentration was measurement and statistics and the minor areas were research methodology and the sociological foundations of education. He completed his Comprehensive Examinations in May, 1978.

He was appointed a Lecturer at Loyola University of Chicago in September, 1979.

He has worked in the area of medical and allied education since 1976. He was with the American Medical Association as a research associate from 1976 until 1980. In September, 1980 he became the Director of Testing and Research for DANB, Inc.

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

LIST OF TABLES

LIST OF TABLES (continued)

LIST OF FIGURES

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

CONTENTS OF APPENDICES

CHAPTER I

INTRODUCTION

The primary purpose of this study is to investigate the scaling and calibration of the Minnesota Multiphasic Personality Inventory (MMPI) test items to the circular scaling model. The basic procedure involves presenting the MMPI items to participants for scaling on each of two bipolar dimensions. A Submission-Dominance dimension with a nine point Likert scale is presented first for scaling. A Hate-Love dimension with the same nine point Likert scale is presented next. Subjects are required to judge where on the nine point scale each item should be placed. This is done for each of the two dimensions with the same MMPI items. Then, using the two dimensions as axes, these items are plotted and their circular order determined.

Schlosberg (1952) used this procedure to validate his study of Woodworth's Scale of Emotional Facial Expressions (Schlosberg, 1941; 1952). Schlosberg (1941) examined Woodworth's (1938) sorted facial expressions and found that the resulting frequency distributions were circular. Schlosberg (1952) then hypothesized that the circular continuum was determined by two bipolar dimensions. As previously stated, in order to validate this notion, he had subjects scale pictures on each of two dimensions using two bipolar nine point scales. The

correlated values he obtained from this procedure and those of a sorting procedure in three separate studies were in the .90's. McCormick (1977, 1981) argued that these procedures might be useful in scaling personality test items for tests presumed to be two-dimensional or circular. La Forge and Suczek (1955) using two bipolar dimensions developed a one hundred twenty-eight item adjective checklist, the Interpersonal Checklist (ICL) with eight subscales presumed to lie at equal intervals in a given order around the circle formed by the two dimensions. The circular order of these scales was confirmed by Rinn (1965) in a factor analysis of the checklist. McCormick (1977) using Schlosberg's sorting procedures on the ICL did obtain circular frequency distributions for the ICL items and also confirmed the circular order of the subscales. McCormick's findings were compatible with Rinn's findings; and both noted that the interval between scales were not equal. In a further study, McCormick and Kavanagh (1981) also scaled items on each of two dimensions using bipolar scales and obtaining a correlation between the scale values obtained with the sorting procedure and with the two-dimensional procedure of about .90. This indicates that the two procedures give essentially equivalent results as noted by Schlosberg. Russell (1979, 1980) has investigated the circular scaling procedures in conjunction with a multidimensional scaling procedure for scaling terms denoting emotions and concluded that a viable model of affect is obtainable using these techniques.

The extensive clinical use of the MMPI and the proliferation of studies using the MMPI, [over 6,000 references as cited by Dahlstrom

(1975); Jackson and Paunonen (1980)] provides the impetus for applying a circular scaling technique to the MMPI scales. Goldberg (1974) states that "... virtually no one will deny its (MMPI) extraordinary historical influence upon assessment research and upon psychodiagnostic practice." Damarin (1971) in a review of Buros' (1970) Personality Tests and Reviews reported that the MMPI has been the most frequently used personality inventory.

The application of the circular scaling procedure to the MMPI seems reasonable, for the MMPI has long been considered to be basically a two-dimensional test [(Dahlstrom and Welsh, 1975; Eichman, 1962; Jackson and Messick, 1962; Kassenbaum, Conch and Slater, 1959)]; however, the nature of the two dimensions has been quite controversial. Conger (1969) and Edwards (1970) have confirmed the two dimensions of the MMPI. Holtzman (1965) states, "... most factor-analytic studies of the MMPI yield two large factors, the interpretation of which is rather controversial." Welsh (1956, 1965) for instance, uses anxiety as the first factor and repression as the second factor while others (Dahlstrom and Welsh, 1975) have preferred to use other construct names for labeling these two dimensions. But the major controversy has been over how to interpret the two dimensions either substantively or as response set (Block, 1965; Edwards, 1957; Messick and Jackson, 1961). The controversy is far from being settled. All that one needs to do is review the Annual Review of Psychology for the last fifteen years to understand that the debate continues, Christie and Lindauer, 1963; Edwards, 1973; Fiske and Pearson, 1970; Holtzman, 1965; Jackson and Parunonen, 1980; Klein, Barr and Wolitzky,

1967; Milholland, 1964; Sarason and Smith, 1971; Wiggins, 1968.

Guttman (1954, 1957) used a trial and error approach in permuting the scale intercorrelations to fit his circumplex model. Guttman examined the correlation matrices of the MMPI and found that two circumplexes could be developed from the data. However, Guttman used only some of the 9 basic scales and some of the research scales. Schaefer (1961) also analyzed MMPI correlation matrices and found a circular order in the scales. Slater (1962) suggested that Schaefer's circumplex is almost identical to the Kassebaum, Couch and Slater (1959) two-dimensional (fusion factor) model.

Leary (1957) suggested that the MMPI had a circular structure analogous to the Interpersonal Checklist (ICL) determined by two dimensions. Leary (1957) postulated that 8 of the MMPI subscales were essentially equivalent in position on the circle (relative to his two dimensions, Submission-Dominance and Hate-Love) to the eight Interpersonal Checklist scales. Thus, Learys' hypotheses directs us towards an important research area on the MMPI. The present study will therefore, examine the circular order postulated by Leary for the MMPI items and scales utilizing the two-dimensional (bipolar) scaling technique proposed by Schlosberg (1952). In addition, comparisons between the empirical results, Leary's hypothesized findings and a factor analytic study of the scales (Williams and Lawrence, 1954) will be systematically investigated.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter will present a brief overview of personality theory and assessment. These areas are explored in order to provide the conceptual basis into the area of personality research. The need for and reliance upon personality research by theorists and assessment specialists provides for the continued search for new and empirically validated methods in scale and item development. The chapter will provide background information into a new methodology to be used with a well researched personality inventory. Finally, a brief summary section is presented.

Personality Theory

Personality theory, that area of psychology concerned with individual differences and the total individual, has had a rather controversial existence. From its beginnings in philosophy and theology to what Hall and Lindzey (1978) characterize as modern personality theory (i.e., Janet, Charcot, Freud, Jung and McDougal), personality theory has continued to defy a comprehensive theoretical approach. Several schools or systems of psychology (structuralism, functionalism, associationism, Gestalt psychology and behaviorism) have attempted comprehensive theoretical frameworks for the understanding of human behav-

ior. Each school has led to one or more theorist's proposing a personality theory.

A general comparison matrix of the leading personality theorist's has been provided in Table 2.1 from the work of Hall and Lindzey (1978). In the preparation of this matrix, Hall and Lindzey are concerned with a detailed comparison of specific theories by indicating for specified issues whether each of the theories emphasizes, occupies a moderate position, or deemphasizes the issue. Hall and Lindzey indicate that the judgements used to compare the theories were broad and approximate. And that, "their lack of precision is due to the extremely general categories used in the rating and also to the complexity of the theories that, in certain instances, make it impossible to know with certainty just how a particular theorist stands on a given issue." However, even with Hall and Lindzeys cautionary note, the matrix allows substantive comparison of the personality theories included. The symbol H indicates that the theory emphasizes the importance of that issue or set of determinants, M that the theory is in middle ground, and L suggests a deemphasis within the theory.

Several multivariate analyses have been performed on the data included in the table (Cartwright, 1957; Schuh, 1966; Taft, 1960). The most recent study by Evans and Smith, (1972) involved a factor analysis of both attributes and theorists with a comparision of the Schuh (1966) results. Evans and Smith found considerable similarities with the factor structure of Schuh, but renamed their factors. These results have confirmed that while some similarities among the theorists are noted, there continues to exist sufficient disagreement

Table 2.1
Dimensional Comparisons of Theories of Personality
(Hall and Lindzey, 1978)

	Purpose	*Unconscious determinants*	*Reward*	*Contiguity*	*Learning process*	*Formal analysis*	*Personality structure*	*Heredity*	*Early developmental experience*	*Continuity of development*	*Organismic emphasis*	*Field emphasis*	*Uniqueness*	*Molar units*	*Homeostatic mechanisms*	*Psychological environment*	*Self concept*	*Group membership determinants*	*Interdisciplinary emphasis*					
																			Biology	*Social science*	*Multiplicity of motives*	*Complexity of mechanisms*	*Ideal personality*	*Abnormal behavior*
Freud	H	H	H	M	M	M	H	H	H	H	M	L	M	M	H	H	H	M	H	H	L	H	H	H
Erikson	H	M	M	L	M	M	H	M	H	H	M	H	M	M	H	H	H	H	M	H	M	H	H	M
Jung	H	H	M	L	L	M	H	H	M	L	H	L	M	M	H	H	H	L	H	L	M	H	H	H
Adler	H	M	L	L	L	M	M	H	H	H	M	H	H	M	H	M	H	H	M	H	L	L	H	H
Fromm	H	M	M	L	M	M	M	L	M	M	M	M	M	M	H	M	M	H	L	H	L	M	H	M
Sullivan	H	M	M	H	M	M	M	L	M	H	M	H	M	M	L	H	M	H	M	H	M	M	M	H
Horney	H	H	M	L	M	L	M	L	M	M	M	M	M	M	H	M	H	H	L	H	L	L	H	H
Murray	H	H	M	L	L	M	H	M	H	H	H	H	H	M	H	H	M	M	H	H	H	H	H	M
Goldstein	H	L	L	L	M	L	L	M	L	L	H	M	M	M	H	M	M	L	H	L	L	L	H	H
Angyal	H	M	L	L	M	H	M	M	L	H	H	H	M	M	H	H	H	L	M	L	L	M	H	H
Rogers	H	L	L	L	L	M	L	L	L	L	H	M	M	H	H	H	H	M	L	M	L	L	H	M
Binswanger & Boss	H	L	L	L	L	L	L	M	L	L	M	H	H	H	M	H	M	L	M	L	L	L	H	M
Eastern Psychology	M	L	L	L	L	H	H	L	L	H	H	M	H	L	M	M	M	L	M	L	H	H	H	H
Lewin	M	L	M	L	M	H	M	L	L	L	L	H	H	L	H	H	M	H	L	M	H	M	L	M
Allport	H	L	L	M	M	M	H	M	L	L	H	M	H	H	H	M	H	L	H	L	H	M	H	L
Sheldon	L	M	L	L	L	L	H	H	L	H	H	L	H	L	L	L	L	L	H	L	L	M	M	M
Cattell	M	M	M	M	M	M	H	H	M	M	L	M	M	M	L	L	H	M	M	L	H	H	L	L
Miller & Dollard	L	M	H	M	H	H	L	L	H	H	L	L	L	L	L	L	L	M	M	H	M	M	L	M
Skinner	L	L	H	M	H	H	L	M	M	H	L	L	L	L	L	L	L	L	L	L	L	L	L	M

among the major theoretical positions to force a continuation of the search for more satisfying and parsimonious theories.

Hall and Lindzey (1978) have listed five characteristics which distinguish personality theory from general behavior theory. These are:

1. dissent from traditional academic theory,
2. concern with practical problems,
3. concern with causes of behavior,
4. treatment of the whole person, and
5. concern with integrating diverse findings.

These characteristics of personality theory seem to have come about from the medical environment in which they were used. However, within the last several decades behavior theory and personality theory have closed the theoretical gap.

Another controversial issue centers around the emphasis placed upon and attention paid to the individual or the idiographic as opposed to the nomothetic views in psychology. Three differences between the idiographic-nomothetic views may be summarized as the phenomena to which personality theory should attend, the methods that are used to study personality, and the types of laws that are developed. Theorists associated with the idiographic position (Allport, 1962) view everyone as unique and maintain that each individual should be studied so as to capture the richness of their individuality. Theorists associated with the nomothetic position (Eysenck, 1951) view the uniqueness of individuals as the concern of artists and historians, whereas, psychologists should be concerned with the establishing of general laws applying to all people.

Those theorists who take the idiographic view look for patterns

of traits that are unique to individuals, values which may be difficult to quantify, emphasizes methods that apply to individuals (autobiographies, etc.) and accept the possibility that no general laws of behavior are possible because of chance, free-will, and individual uniqueness. In contrast, those theorists who accept the nomethetic view see traits as characteristic of all individuals, phenomena not quantifiable as lying outside of science, emphasizes the scientific method, objectivity and precise measurement. That is to say, that the current limitations of our inability to predict behavior will decrease when more general laws are discovered. However, over the last several years these two opposing viewpoints have each expanded theortically and do not conflict with one another on all issues. For example, it is possible to arrive at the same conclusions through different routes. Those theorists who are active in personality theory do suggest that a means for systematic ordering of ideas and an approach to integrating various findings will provide a way to pull together what is known and give direction for discovering what is as yet unknown. As Hall and Lindzey (1978) state "a theory is not true or false but useful or not useful ... and these qualities are defined in terms of how efficiently the theory can generate predictions or propositions concerning relevant events that turn out to be verified (true)."

Personality Assessment

The brief overview of personality theory previously presented, suggests what Hall and Lindzey (1978) have noted that, "no substantive definition of personality can be applied with any generality." They

argued; however, in favor of defining personality by "the particular empirical concepts which are part of the theory of personality employed by the observer." Thus, personality assessment becomes an integral part of the conceptual system developed by each of the major personality theorists. However, a cautionary note comes from Lanyon and Goodstein (1982) when they state that "most approaches to assessing personality have been theoretically neutral, but the personality descriptions produced by each have tended to involve the language of one or another personality theory."

Personality assessment may be thought of as "the process of gathering and organizing information about another person in the expection that this information will lead to a better understanding of the person" (Lanyon & Goodstein, 1982). This understanding of the personality of another person typically means making some predictions about the other persons future behavior in specified situations. The two major trends currently concerned with the process of prediction in personality assessment are the clinical and the actuarial (statistical) approach.

The clinical approach to prediction, allows the practitioner the opportunity to use professional judgement or intuition in the assessment procedure. That is, the psychologist may assign weight to the assessment prediction (cues, scores, responses, data) and combine these predictions in a subjective fashion. Meehl (1954) described the clinical approach as being informal, nonmechanical and subjective.

In contrast, the actuarial approach to prediction first quantifies the predictors and then combines them according to a set of rules

that have been empirically determined. On the basis of previous research, each predictor is given a quantitative weight and the combined weighting of the predictors produces a best-fitting actuarial model. Strict adherence to the predetermined procedural rules provides for mechanical processing and little or no human judgement. Meehl (1954) described the actuarial approach as being formal, mechanical and objective.

The distinction between the clinical and actuarial methods according to Gough (1962) "is to be found in the way in which the data, once specified, are combined for use in making the prediction." The research to date has heavily favored the actuarial approach to prediction to the extent that research in actuarial strategies is becoming an area of specific investigation. However, Holt (1970) has continued his arguments that the actuarial approach has oversimplified the area of inquiry, and that adequate scientific standards have not been applied in their research. Holt (1970) maintains that clinical methods are still very much worthwhile.

Several general considerations must be made concerning the actuarial and clinical approaches. First some studies have produced results in favor of individual clinicians and their prediction. Perhaps different training would produce clinicians who are better able to make clinical predictions of personality. Second, Prichard (1980) suggested cooperation of the two approaches when ethical responsibilies are involved with a client. Third, in the relative economy of using the clinical actuarial approach, situations may exist where it is far more economical to pursue the clinical approach than the actuar-

ial approach.

The actuarial approach has become the principle approach used currently in personality assessment. It is therefore, necessary to investigate the strategies used in the construction of formal assessment devices utilized in actuarial prediction. The three different strategies, discussed are: 1) rational-theoretical, 2) empirical and 3) internal consistency.

The rational-theoretical strategy of test construction utilizes stimuli that have common sense appeal and are based to a lesser or greater degree upon a particular theory of personality. That is, test items are considered on an apriori basis to exhibit face validity. The Edwards Personal Preference Schedule (EPPS) of Edwards (1959), Study of Values (Allport, Vernon and Lindzey, 1960), the Personality Research Form (PRF) (Jackson, 1967) and the Thematic Apperception Test (TAT) (Murray, 1943) all demonstrate a rational-theortical approach to test construction. However, the rational-theortical approach has decreased in application with the rise of empirical-internal consistency based instruments.

The empirical based strategy relies completely upon previous research and analysis to select test items. The items are chosen solely on the basis of demonstrated utility. Items are selected which differentiate between members of two groups known to be different on specific variables. The California Psychological Inventory (CPI), (Gough, 1965), and the most widely used and researched Minnesota Multiphasic Personality Inventory (MMPI), (Hathaway and McKinley, 1940) are examples of empirically constructed tests. The MMPI which is used in

this study is described in detail later in the chapter.

The internal-consistency strategy is related to the empirical based approach to test construction. This strategy based upon the statistical technique of factor analysis, groups items whose responses tend to be related to each other. A large assortment of items are administered to a large number of subjects. The purpose is to determine which items will group clusters of people who respond in the same way. The items to which groups of subjects respond in a similar way are said to be conceptually related and to form factors. Thus, items in factors are sought which are related highly to one another, slightly related or not related at all. The Guilford Tests (Guilford, 1959), the Thurstone Temperament Schedule (Thurstone, 1949) and the Sixteen Personality Factor Questionnaire (16PF) of (Cattell, 1965) are examples of this strategy.

Each of the three strategies described have advantages and disadvantages. There implementation in practice and their influence on each other suggests that they are not mutually exclusive. Combinations of the strategies have been employed. Thus, as Lanyon and Goodstein (1982) state "a balanced and sophisticated method might involve the initial selection of test stimuli based upon theoretical and rational considerations, with factor analysis for the attainment of internal consistency and final refinement based upon clear-cut empirical findings."

The assessment techniques described previously may be described as traditional. That is, their conceptual basis, implementation and support has developed over may decades. There are; however, other

assessment procedures loosely conceptualized under the term behavioral assessment. The interest in behavioral assessment has grown rapidly over the last ten years, and is considered still in its infancy in terms of development and practice (Kratochwill, 1982). Behavioral assessments rapid and extensive use in clinical situations requires a brief description of its development.

The rise of behavior therapy in the 1960's provided the impetus for behavioral assessment to emerge as a viable assessment technique. The broadening of the definition of behavior from an overt event, which can be publicly perceived and recorded, to any type of activity has also helped. Behavior now includes covert behavior (thoughts) and cognitive behavior and feelings which can be assessed and studied. The most important influence for the acceptance of clinical behavior assessment is the implied interactionist view of the cause of behavior (Lanyon and Goodstein, 1982). This interactionists view denotes behavior as a product of both organismic variables (such as current physiological state and past learning history) and current environmental variables (Nelson and Hayes, 1979). Their conclusion was that both variables need to be assessed, and their relationship to the problem behavior of interest must then be determined.

Several different models of behavior therapy have evolved (Kratochwill, 1982). These include applied behavior analysis, the neobehavioristic medicational S-R model, cognitive behavior modification and social learning theory. Kratochwill identified five general characteristics that unify the behavior therapy approach (Kazdin, 1978):

1. A focus upon current rather than historical determinants of

behavior.

2. An emphasis on overt behavior changes as the main criterion by which treatment should be evaluated.

3. A specification of treatment in objective terms so as to make replication possible.

4. A reliance on basic research in psychology as a source of hypotheses about treatment and specific therapy techniques.

5. Specification in defining, treating and measuring the target problems in treatment.

These dimensions set behavior therapy and behavioral assessment apart from the traditional forms of psychological assessment but especially the test-based psychometric models.

Application of behavioral assessment in a clinical treatment setting produce several unique features. First, assessment is specific and tailored to the problem. Second, assessment is closely linked to the treatment plan implemented. Third, assessment is continuous through out treatment (Kratochwill, 1982). Thus, behavioral assessment allows for the determination as to when goals of treatment have been met and when treatment should be terminated. The extension of these ideas is proposed by Kendall and Braswell (1982), who suggest that cognitive-behavioral assessment is necessary for the confirmation of treatment mechanisms of change. This means that it is essential to assess the cognitive constructs that are purportedly being treated in order to know if change actually occurs in these variables.

Behavioral assessment is not without its problems. Major concerns involve the reliability of the observations, how often the observation is made, and bias due to the observer's own expectancies. With regards to validity, does the assessment procedure provide a represent-

ative sample of the behavior (content validity)? Few attempts have been made to standardize behavioral observation procedures. More importantly, emphasis should be placed upon multiple sources of assessment information regarding a particular behavior.

While behavior therapy has had an important impact upon behavioral assessment, other theoretical developments have influenced the development of behavior therapy. The two most notable influences have been criterion-referenced assessment and path-referenced assessment.

Criterion-referenced measurement was defined by Popham and Huseck (1969) as "those (measures) which are used to ascertain an individual's status with respect to some criteria, i.e., performance standard." CRT's usefulness in identifying cognitive skills without normative comparisons, serving as performance baselines has been extended over to the treatment phase to help validate behavior change (Cancelli and Kratochwill, 1982). Within criterion-referenced behavioral assessment, it is not necessary to point to an underlying state or trait to account for performance. The assessor is expected to be interested in knowing how well the circumstances under which the responses (behavior) were actually observed during the assessment represent circumstances in which the intervention will occur. The behavior or performance is generally related to maintaining conditions in the current environment, rather than to traits or states within the individual.

The criterion-referenced approach has demonstrated the importance of setting factors and situation-specific influences in the acquisition of behaviors.

Path-referenced assessment refers to a strategy of describing

test performance by indicating examinee position in a structural model (Bergan, 1982). The path-referenced assessment can focus attention on specific behaviorally defined domains rather than on constructs such as traits, which are generally not conceptualized in a way that clearly identifies a specific class or set of classes of examinee behavior, (Bergan, 1982). Behaviorally defined domains make it possible to link test behavior to behavior in the natural environment. An obvious advantage over the more traditional assessment approaches.

Areas of Research

The atheoretical and expanded definition of personality assessment provide for numerous areas of research. Several areas will be briefly reviewed to show the complexity of the issues and the diverse but interlocking aspects of each area.

As stated previously, the debate between clinical versus actuarial prediction continues. Adherents of the clinical approach are still continuing to stress the value of the competent clinician (Holt, 1970). Investigation into the cookbook approach to personality description has not been favorable to the clinical approach. Research continues to demonstrate that all of the many interpretive systems available both predict and describe personality much better than even the best clinician. Little research to date has focused upon the cross-validation of the interpretative systems. Instead, the focus has been placed upon finding which of several actuarial strategies consistently tend to result in more accurate outcomes. However, more is still to be learned because most of the research has dealt with

simple dichotomous predictions, such as whether an MMPI profile reflects neurosis or psychosis.

The area of behavioral assessment needs to move out of its infancy to embrace the established psychometric principles of other areas (Kratochwill, 1982). Specifically, Kratochwill suggests research in demonstrating behavioral assessment procedures useful for making treatment-related decisions, to suggest assessment is related to treatment outcomes and to match the various methods of assessment and specific target behaviors.

Cognitive-behavioral assessment would benefit from research to identify the most effective assessments through multimethod assessments used in outcome studies (Kendall and Braswell, 1982). Criterion-referenced and path-referenced assessment require research to elaborate on their clinical usage and application into other areas.

Other notable areas of investigation include the psychophysiology of intelligence (Eysenck, 1982); reliability of inkblot content scales (Regnikoff, Aronow and Rauchway, 1982); crisis intervention (Butcher and Herzog, 1982) and marital assessment (Synder, 1982).

Another major research area concerns the reliability and validity of the assessment methods. These two psychometric considerations form the basis for the use, prediction and description of instruments in personality assessment.

Validity in particular, requires investigation into content, criterion-related, and construct validities. Incremental validity or that amount of predictive efficiency obtained with one instrument over another requires much more research than currently exists. Response

sets (styles) have been shown to be difficult for researchers to define and research, but requires further investigation.

The predictive process involves gathering data, organizing data and using the data to generate predictions. A variety of kinds of data must be gathered, organized in profiles perhaps and used to generate predictions actuarially, clinically, or through a combination of the two. The decisions concerning data collection, organization and predictive strategy to be used depend on the behavior to be predicted, the theory used and the state of our understanding the behavior in question. Thus Cronbach (1960) proposed that as the science of psychology develops, an evolution from naturalistic observation to highly structured techniques and from impressionistic descriptions to quantitative measurement will ensue. Personality research must then continue to pursue areas of investigation which may lead to more precise and systematic assessment models through better and better test development procedures.

The area of personality research forms the link with theory and techniques of assessment to provide explanations of personality structures. Research has shown that item assignment to scales by the typically used procedures is extremely unstable (Eysenck, 1969; Sells, Demarce, & Will, 1970). A new direction in scaling procedures may be apparent from recent research (McCormick, 1977; Thomas, 1981). It is necessary to validate new research techniques (circular scaling) with well documented existing tests (MMPI) to further the scientific approach to personality theory. The remainder of this chapter will decribe the conceptual basis of a circular scaling model. A widely

used and researched personality inventory the Minnesota Multiphasic Personality Inventory (MMPI) will also be described in detail since it provides the basis for this study into an empirical investigation of the circular scaling procedure.

Schlosberg's Scaling Procedure

Schlosberg (1941) was the first to notice the circularity of the continuum developed by Woodworth (1938). Schlosberg used Woodworth's six point scale to study judgements of emotional expressions in a different set of pictures, the Frois-Wittman series. Schlosberg used 45 subjects, asking them to sort the 72 pictures into bins labeled with the names of the scale divisions. Each subject sorted the pictures three times. He concluded from this study that the sixth or last step (contempt), was more closely related to the first step (love) than to the other steps of the scale. He then argued that this implied that the scale was circular rather than linear. To obtain scale values, he located the mode for each distribution, assigned the value of 0 to it, and working around the circle in each direction, assigned numbers of +1, +2, +3, and -1, -2, -3 to the other steps. These values were then multiplied by the frequencies and averaged to obtain the scale position for each picture. He named his resulting two dimensions as Unpleasantness-Pleasantness and Attention-Rejection.

Schlosberg (1952) attempted to validate the scale values he obtained from his previous study. This time, he had subjects sort the pictures from the previous study along a nine point rating scale anchored at one end with Unpleasantness and at the other by Pleasant-

ness. Subjects then sorted the pictures on a second nine point rating scale for the Attention-Rejection dimension. He set the two dimensions orthogonal to each other and plotted each of the pictures using the Pleasantness-Unpleasantness values as the ordinate (y-axis) and the Attention-Rejection value on the abscissa (x-axis). He obtained scale values by the use of a 360 degree protractor, determining the angular values, and dividing by 60. He replicated his procedure in three separate experiments and obtained correlations between the scale values for the two methods of .94, .92, and .96. This indicates the essential interchange between the two methods. Abelson and Sermat (1962) using a multidimensional procedure confirmed Scholosberg's results.

Russell (1980) accepts Schlosberg's evidence and expands upon it. His thesis, "is that affective states are, in fact, best represented as a circle in a two-dimensional bipolar space. The two types of evidence considered are: (a) evidence as to how layman conceptualize affective states and (b) evidence from multivariate analysis of self-reported affective states."

Russell (1980) in his first study had subjects sort 28 stimulus words into one of eight categories labeled arousal, contentment, depression, distress, excitement, misery, pleasure and sleepiness. Subjects then were asked to place eight categories labeled aroused, contented, depressed, distressed, excited, miserable, pleased and sleepy into a circular order. Using Ross' (1938) scaling technique (explained in detail later), Russell found the expected circular order, indeed 10 of the 36 subjects produced exactly the circular ordering predicted.

Polar coordinates for the 28 words were computed and plotted (Figure 2.1). Inspection of this figure clearly shows circular ordering and verification of the usefulness of Ross' technique.

In a separate study, Russell had subjects sort a set of 28 emotion terms printed on separate cards. Subjects were asked to sort the sets into 4, 7, 10, and 13 groups in successive trials. Instructions were to group together emotional states that were more similar. Results were analyzed using a multidimensional scaling procedure (Lingoes, 1965, 1973). Inspection of Figure 2.2 reveals a "remarkable resemblance to Figure 2.1, despite differences in the measurement model and procedures employed."

Finally, in a two-dimensional scaling the results are shown in Figure 2.3. In Figure 2.3, the pleasure and arousal axis are assumed to be orthogonal. In the sample of 28 words, the actual correlation between the two sets of scaling values was .03.

Russell compared the three scaling techniques by calculating the "average redundancy" yielded by a canonical correlational analysis between the scales, taken two at a time. Redundancy is the amount of variance in two-dimensional multidimensional scaling solution accounted for by the pleasure and arousal ratings. Another redundancy value can be calculated as the variance in the second set accounted for by the first. Average redundancy is the mean of the two. Russell reported that each solution accounted for between 94-95% of the variance in the other solution. "Clearly, the three scaling solutions yielded nearly identical results, as has been suggested by visual inspection." Russell continues, "once bipolar affect factors are as-

Figure 2.1

Direct Circular Scaling Coordinates for 28

Affect Words (Russell, 1980)

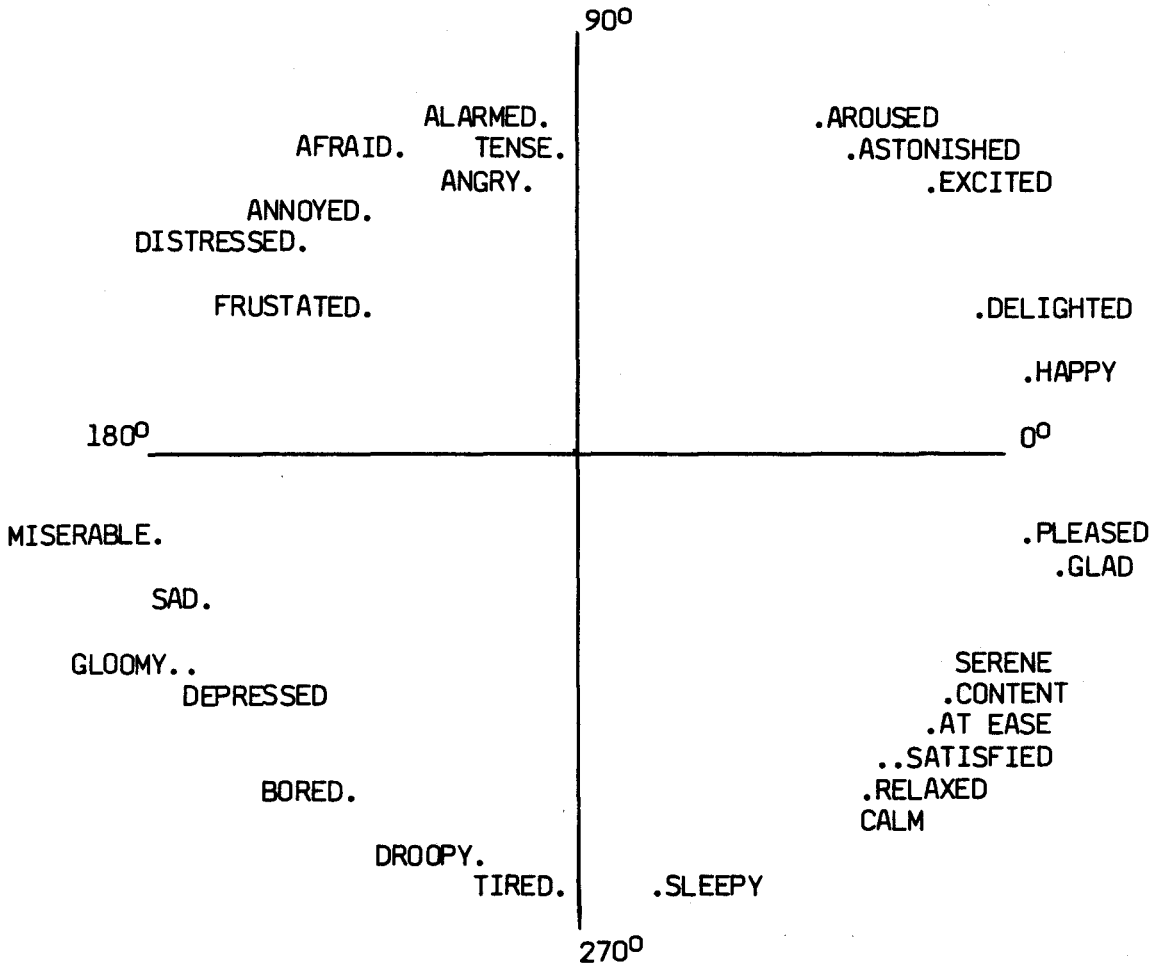


Figure 2.2

Multidimensional Scaling Solution for 28

Affect Words (Russell, 1980)

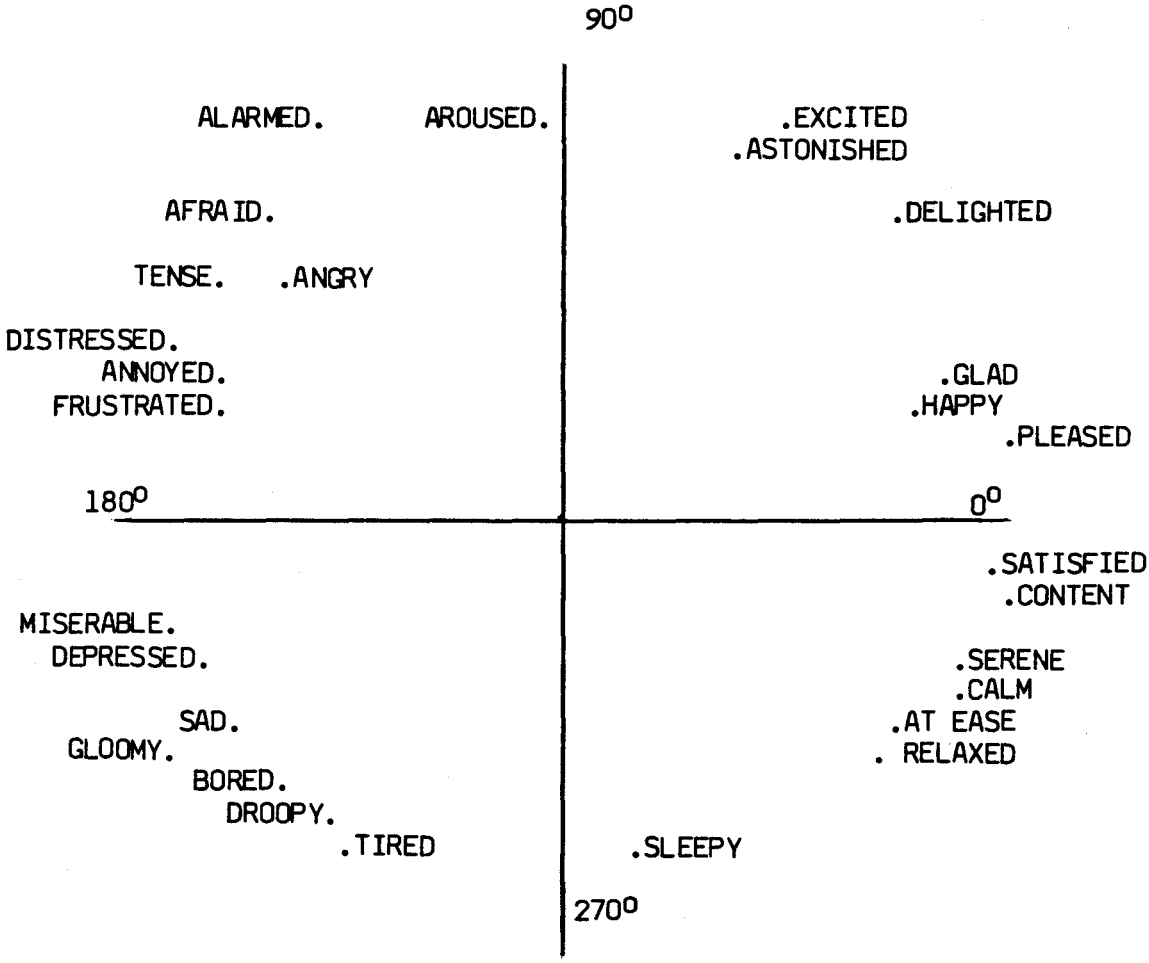
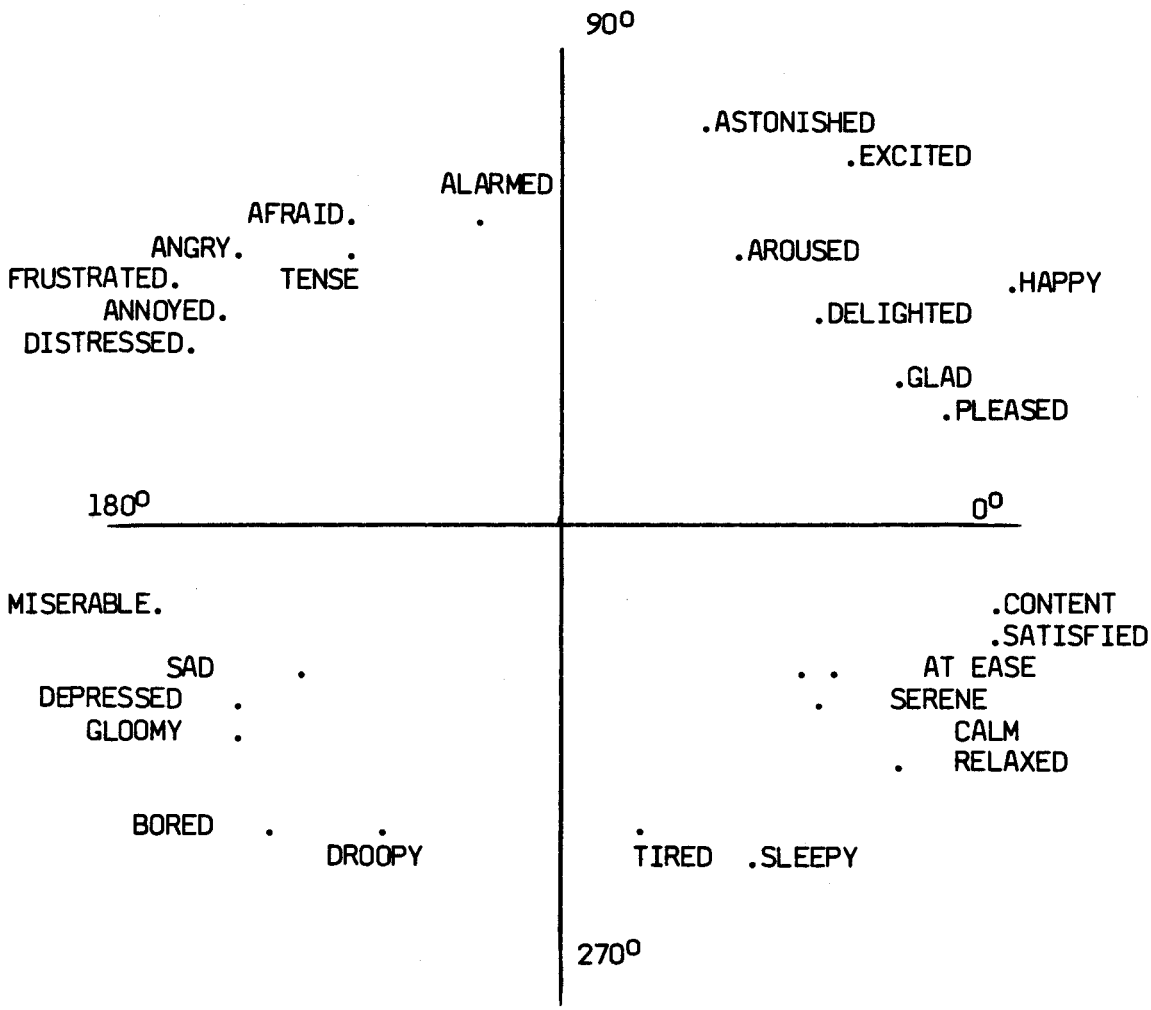


Figure 2.3

Unidimensional Scaling of 28 Affect Words on

Pleasure-Displeasure (horizontal axis) and

Degree of Arousal (vertical axis), (Russell, 1980)



sumed, it appears that the major proportion of variance is accounted for by only two factors." Thus Russell concludes that the structure proposed in Figure 2.1 appears suitable to a circumplex measurement model (Guttman, 1954).

Ross' Statistic for Circular Scales

Ross (1938) introduced a vectorial method for circular scales. Ross states that, "In using vectors, we assume that values on the circular scale are on the circumference of a circle of unit radius and represent these vectors in the notation of a complex number (a + bi). For convenience we may express the vectors in polar coordinates whenever this seems desirable." He points out that, "we first assume that each unit of frequency is equivalent to scalar multiplication of the appropriate vector by unity." Each vector, then, may be multiplied by the frequencies at that point; that is (McCormick, 1977):

$$f_n\ (a + bi).$$

In polar coordinates the vector length is then found by:

$$r = \sqrt{(\sum a)^2 + (\sum bi)^2}$$

and the angle of the vector is given by:

$$\theta = \tan^{-1} \frac{\sum a}{\sum bi}$$

The angular value θ, is indicative of the central tendency and r is a scalar value which varies from a maximum of n when all the cases fall

at the same point down to zero when they are equally distributed. Ross also provides an index of the precision of the central tendency,

$$p = \frac{r}{n}$$

which equals unity when there is complete consistency (no variability) and zero when the vectors are spread uniformly around the circle.

McCormick (1977) used the Ross' technique to scale the items of the Interpersonal Checklist (ICL); however, the more simple but equivalent trigonometric functions were used rather than the complex numbers. McCormick had subjects sort the 128 items of the Interpersonal Checklist (LaForge and Suszek, 1955) into eight categories labeled: docile-dependent, cooperative-overconventional, responsible-overgenerous, managerial-autocratic, competitive-exploitive, blunt-aggressive, skeptical-distrustful, and modest-self-effacing. Instructions were to place each item in the category in which it seemed best to belong.

A second independent scaling was conducted using the following single-label categories: docile, conventional, responsible, managerial, competitive, critical, skeptical, and self-effacing.

The third study rated the ICL items on two separate bipolar dimensions. Love-Hate and Dominance-Submission were used with a nine point Likert scale anchored by an adverb. The adverbs used were: extremely, strongly, moderately, mildly, neutral, mildly, moderately, strongly, and extremely. Results confirmed a circular ordering of the items. In addition, circular scale values were calculated using Ross'

technique (1938) and plotted.

Finally, the angular values calculated from the sorting procedure correlated .89 with those calculated from the two-dimensional procedure, a finding similar to those reported by Schlosberg in his comparisons of the two procedures and by Russell (1980). In addition, the comparison of Rinn's (1965) factor plot and the scale resultants in this study indicate that the subject tended to use the items to describe themselves in much the same way as indicated by the scaling values. As a final note, McCormick's study gives support to Leary's (1957) hypothesis of the circular ordering of the ICL and the placement of the categories around the continuum.

Leary (1957) developed the ICL to complement his interpersonal system of personality diagnosis. Leary and his associates assembled a list of several hundred terms and combined them into smaller categories. The result was a list of generic concepts which were related to one another through the more primary dimensions of power and affiliation. Adopting a two-dimensional grid to relate the 16 concepts together led to the notion that 4 of the concepts were expressions of the nodal points of the primary axis (Dominance-Submission for the power axis and Hostility-Affection for the affiliation axis). The 12 remaining generic concepts were thought to be explained as combinations or blends of the 4 nodal points. As an example, responsible behavior is considered a blend of Dominance and Love, docile behavior as a blend of Submission and Love.

The 16 categories were later reduced to 8 for scoring purposes by combining adjacent categories. Thus, there are 8 circularly related

scales of 16 items, each presumably representing 8 equally spaced intervals on the surface of a circular coordinate system in ordinary Euclidean space.

Conventional trigonometric formulas relate the 8 octant scores; and the vector mean of the 8 scores can be taken as the measure of central tendency. The orthogonal Dominance (Dom) and Love (Lov) axes are taken as the frame of reference, and two scores are obtained for each subject: one on the Dominance dimension and the other on the Love dimension.

Leary (1957) extended his interpersonal system of personality diagnosis to the Minnesota Multiphasic Personality Inventory (MMPI). Leary states that, "... eight MMPI scores can be converted into vertical and horizontal indices and translated into the language of the interpersonal system." The Ma, Hs, D and Pt scales when appropriately combined yield the vertical (dominance-submission) factor, and similarly the K, Hy, F and Si scales yield the horizontal (love-hate) factor (Leary, 1957 p. 441). These factors when plotted on the interpersonal circle produce a summary point which becomes the prediction of future role interaction. Leary's theory thus suggests the investigation of assumed different "levels of personality" could be investigated by applying the same frame of reference (the circular scaling model) to the different tests presumed to assess personality at those levels.

Description of the Minnesota Multiphasic Personality Inventory (MMPI)

The Minnesota Multiphasic Personality Inventory (MMPI) is being

considered separately because this instrument's items and structure provide the basis for this study.

Hathaway and McKinley (1942) began an empirical approach to scale construction. Beginning with over 1000 statements, 504 items survived early efforts to eliminate duplicates, simplify wording and readability. Items were restated in personal declarative form with positive and negative wording balanced. A content classification (Table 2.2) shows the range and balance of the general topics covered by the original items. Items in the area of masculinity-femininity (category 25) were added later. Hathaway and McKinley gathered samples of both normal men and women and selected adult patients of the University of Minnesota hospitals. The general procedures for constructing each clinical scale involved an item-by-item contrast of the endorsements (True or False) given by the selected groups of psychiatric patients and the answers provided by the volunteer group of normal men and women. Items which showed appreciably different distributions of endorsements by the criterion and normative groups were selected for inclusion in that scale, whether the content of the item appeared to bear upon the psychiatric condition or seemed quite irrelevant (Dahlstrom & Welsh, 1972). Separate scales were formed for each diagnostic group identified. The basic MMPI scales are presented in Table 2.3.

The MMPI is the most widely used clinical instrument and the most researched of any dignostic instrument yet constructed. Over 200 additional scales have been developed from it and it is frequently used as a validity measure in comparison to newly developed person-

Table 2.2

Classification of MMPI Items by Content

CATEGORY	CONTENT AREA	NO. OF ITEMS
1.	General health	9
2.	General neurologic symptoms	19
3.	Cranial nerves	11
4.	Motility and coordination	6
5.	Sensibility	5
6.	Vasomotor, trophic, speech, secretory problems	10
7.	Cardiorespiratory system	5
8.	Gastrointestinal system	11
9.	Genitourinary system	5
10.	Habits	19
11.	Family and marital relations	26
12.	Occupational problems	18
13.	Educational problems	12
14.	Sexual attitudes	16
15.	Religious attitudes	19
16.	Political attitudes: law and order	46
17.	Social attitudes	72
18.	Affect, depressive	32
19.	Affect, manic	24
20.	Obsessive and compulsive states	15
21.	Delusions, hallucinations, illusions, ideas of reference	31
22.	Phobias	29
23.	Sadistic, masochistic trends	7
24.	Morale	33
25.	Items primarily related to masculinity-femininity	55
26.	Items to indicate whether the individual is trying to place himself in an improbably acceptable light	15

Table 2.3

The Standard Validity and Clinical Scales of the MMPI

SCALE LABEL	PRINCIPAL STRATEGY OF DERIVATION	PRINCIPAL CRITERION GROUP	NO. OF ITEMS	TYPICAL INTERPRETATIONS OF ELEVATED SCORES
L	Rational	---	15	Denial of common frailties; "saintliness."
F	Statistical	---	64	Validity of profile is doubtful.
K	Empirical	50 psychiatric patients with low MMPI profiles	30	Defensive; minimizes social and emotional complaints.
Hs	Empirical	50 hypochondriacs	33	Numerous physical complaints.
D	Empirical	50 depressives	60	Severly depressed.
Hy	Empirical	50 hysterics	60	Immature, suggestible, egocentric, demanding.
Pd	Empirical	Unspecified number of psychopaths	50	Rebellious and nonconformists.
Mf	Empirical	13 male homosexuals	60	Artistic interests; effeminate.
Pa	Empirical	Unspecified number of paranoids	40	Resentful and suspicious of others.
Pt	Empirical	20 psychasthenics	48	Fearful, ruminative, agitated.
Sc	Empirical	50 schizophrenics	78	Withdrawn, seclusive; bizzare thinking.
Ma	Empirical	24 manics	46	Impulsive, expansive, distractable.
Si	Empirical	50 high and 50 low scorers on social introversion test	70	Introverted, shy, self-effacing.

ality tests. Buros (1970) lists over 2,500 references and 3 scoring services for the MMPI. In 1974, Buros listed 3,850 references and 4 scoring services for the MMPI. In Dahlstrom and Welsh's handbook, (1975) over 6,000 references are sited. The use of the MMPI in medical application, criminal justice, education, counseling, therapy and personal selection are staggering (Dahlstrom and Welsh, 1975). The research and criticism will continue as the MMPI and personality and test theory develop.

Dimensional Structure of the MMPI

Dahlstrom and Welsh (1975) state, " ...the internal structure of the common variance in the MMPI profile has usually been characterized as basically two-dimensional." In Welsh and Dahlstrom (1956), these authors state, "in almost all the studies there is essential agreement as to the loadings of two factors although the interpretations and the name assigned to these factors vary." Edwards and Abbott (1973), Holtzman (1965) and Jackson and Paunonen (1980) in each of their reviews also confirm the two-dimensional structure of the MMPI. Tryon (1966) in a cluster analysis of the MMPI items found seven factors, only five of which Lorr (1968) could replicate. However, it has been shown that when scores on the seven Tryon cluster scales are intercorrelated and factor analyzed, the usual two major MMPI factors are obtained (Edwards and Abbott, 1973; Edwards and Klockars, 1970).

The naming of the two basic dimensions of the MMPI remains controversial. For instance, Welsh (1956) was able to construct two fully independent factors. His first factor, A, which he calls anxiety has

been referred to by some as general maladjustment. His second factor, R, which he calls repression again has been referred to by others as a more generalized inhibition or control over expression of psychopathology. These two scales of Welsh's are quite similar to the alpha and beta dimensions of Block (1965). Although Block's scales were developed to reflect social desirability and acquiescence dimensions.

Welsh (1965) has proposed that his two scales be used to form a grid of nine categories, or novants. That is, the two-dimensional space is trisected on each dimension to form a 9-space grid. Placement in one of the novants is obtained by plotting a subjects scores on each of the scales.

A study by Williams and Lawrence (1954) indicated the relative orthogonality of Welsh's A and R factors. The study also reported these factors contributions to the factor structure of the MMPI. A random sample of 100 neuropsychiatric patients in an army hospital were used. In total 32 variables were included. These included the basic and validity scales of the MMPI, certain Rorschach determinants, the Wechsler-Bellevue Verbal IQ and Barron's Es (Ego-strength) scale. Table 2.4 presents the unrotated orthogonal factors as given by Williams and Lawrence. The results of this study according to the authors are in agreement with the results of previous factorial studies. The factor loadings of Williams and Lawrence study are utilized in this present study for comparison purposes.

Eichman (1961, 1962) also has developed two major dimensions from the MMPI. He refers to his factor scale I as anxiety, and factor scale II as repression. However, his scales are shorter and have been

Table 2.4

Orthogonal Factors

VARIABLE NO.	SYMBOL	I'	II'	III'	IV'
1	W	46	70	-10	09
2	D	90	-15	-06	-02
3	d	66	07	-28	-06
4	M	61	13	-26	00
5	FM	45	-02	-33	-03
6	m	40	16	-47	20
7	k	53	33	-03	-01
8	K	23	55	-16	27
9	F	83	-17	20	-13
10	Fc	28	32	-17	12
11	c	56	29	01	-01
12	C^1	23	30	-09	07
13	FC	51	14	-65	14
14	CF	40	59	00	-07
15	C	12	49	-20	-10
16	P	01	-02	-04	-03
17	R	100	04	-27	-01
18	VbIQ	37	40	00	-03
19	L	19	02	42	-11
20	F	05	-67	-25	53
21	K	28	38	39	04
22	Hs	21	-62	07	63
23	D	14	-19	03	64
24	Hy	20	-29	48	53
25	Pd	-10	-08	03	86
26	Pa	-10	-33	-07	70
27	Pt	08	-69	-14	67
28	Sc	-01	-58	-22	74
29	Ma	-08	-05	-59	39
30	Es	28	77	09	-45
31	A	-02	-40	-09	83
32	R	-16	11	51	16

proposed as a short form of the MMPI.

Leary (1957) also, as noted above, has proposed a two-dimensional system, Love-Hate; Dominance-Submission for his interpersonal diagnostic system.

Finally, a major study by Kassebaum, Couch, and Slater (1959) has confirmed the basic assumption that the MMPI has two major dimensions. In this study, not only were the 13 clinical and validity scales used but, also 19 nonclinical scales. The centroid method of Thurston (1947) was used in the analysis to extract two factors. A third centroid was extracted; however, it accounted for only 5% of the variance and did not contain a significant coefficient in the residual matrix beyond the number expected by chance. The matrix was then rotated to simple orthogonal structure. Factor I which accounted for 9% of the total variance and 72% of the common factor variance was defined as a dimension of Ego Weakness vs Ego Strength. Factor II which accounted for 10% of the total variance and 19% of the common factor variance was termed Introversion-Extraversion, Kassembaum et al, then, having established the primary reference axes, rotated the axes 45 degrees. They refer to these new factors "factor fusion" as they are combinations of the primary reference axes. They proposed to join their system with Leary's (1957), outlining advantages. They state:

> The first advantage is conceptual clarity. A better understanding of the nature of the fixed position factors is produced when they are examined in relation to other dimensions in the factor space. It is often particularly profitable to test the validity of the conceptualization of the original factors by obtaining predictions (made on the basis of these conceptualizations alone) of the nature of the factor fusions before the rotation is made.

> The second advantage is the increased probability of a continuity of studies. The arbitrary placing of axes according to the simple structure criterion maximizes apparent diversity of findings if fusion positions are not also interpreted. This diversity is often due to such accidents as the selection of variables to be included in the analysis. For example, if Investigator A includes more tests which lie on Axes I' and II', their simple structure solutions will lie 45 degrees from one another. An impression of great disparity will be created when in reality an almost perfect replication has been achieved.

These authors point out further that Goldman-Eisler's (1951) two-factor solution of her rating scales was very similar to their fusion factors and represented a 45 degree rotation of Eysenck's two basic dimensions. Diamond (1957) also has pointed out that Stagner's two dimensions are basically a 45 degree rotation of Wundt's original primary reference axes.

Couch (1960) replicated the results of Kassenbaum, Couch and Slater. Wiggins (1962) developed scales for Deviant False and Deviant True with regard to the the MMPI and plotted the correlations of the MMPI basic scales to these two dimensions. He noted that in the scatter-plot the scales falling within each of the four quadrants have definite logical relation to one another. And, "Scales falling near the 45 degree vector are about equally influenced by both Deviant True and Deviant False tendencies" (Wiggins, 1962).

These results suggest that an infinity of rotations are possible with an infinity of possible labels for the dimensions. The dimensions observed in any analysis will depend on the intercorrelations among the variables sampled from that space.

Other problems are evident with the MMPI at both the scale and item level. Comrey (1957, 1958) who has performed factor analytical

studies on the basic MMPI scale concludes "In view of the marked overlapping variance between scales and the apparent lack of homogeneity within scales, it appears desirable to know something about the factorial content of the items themselves. Such knowledge should be helpful in regrouping present items and in suggesting areas where additional items may be developed."

Concern by major researchers (Guilford, 1952) has been expressed to avoid factoring test scales which contain overlapping items (items used on more than one scale). Wheeler, Little, and Lehnes (1951), for example, report a correlation of .86 between the Sc and Pt scales, .77 between the Sc and F scales, and .73 between the Hs and each of the D and Hy scales. Shure and Rogers (1965) concluded that cross-study factor stability may be erroneously introduced or exaggerated by item-overlap artifact rather than being a reflection of stable personality dimensions.

Circularity of the MMPI

Guttman (1954; 1957) examined the correlation matrix for the MMPI of Taylor (1951) and found he could extract two circumplexes from the data. The study used only some of the 9 basic scales and included some of the research scales. Schaefer (1961) also reported an analysis of the MMPI correlation matrices, using the 9 basic scales as published by Williams and Lawrence, 1954. He reported a circumplical order for the scales. Slater (1962) commented that, "Schaefer's circumplex organization of the MMPI variables is almost parallel to the Kassenbaum, Couch, and Slater two dimensional (factor fusion) model..."

Wiggins (1979) states, "To the extent that the MMPI clinical scales reflect conventional diagnostic labeling, they too would be expected to exhibit a circular ordering."

In summary, this chapter has provided a conceptual link between personality theory and assessment. The many conceptualization of what is personality has led to may definitions and assessment methods. Personality assessment is considered broadly with examples of traditional and current approaches and the problems of each.

The suggestion was made that many areas of personality research are now underway. Behavioral assessment as a clinical method is continuing to gain supporters and applications. Approaches to prediction and descriptions of personality are currently actuarial and atheoretical. The actuarial influence to test construction was emphasized to include new methodologies of scale development.

A description of a circular model of test construction was introduced. The use of this circular scaling method as a well researched personality inventory which exhibits a circular structure was explained. The theoretical basis for the circular model was provided.

The specification of the methods used to investigate the application of the circular scaling to a personality inventory is presented next.

CHAPTER III

METHOD

The primary purpose of this study was to investigate the application of a circular scaling model to the item-statements from the Minnesota Multiphasic Personality Inventory (MMPI). Test items from the Minnesota Multiphasic Personality Inventory (MMPI) were scaled by means of a circular scaling procedure onto a bipolar (two-dimensional) continuum composed of Submission-Dominance and Hate-Love dimensions. Given a circularly ordered scale of items, Leary's hypotheses for the MMPI scales were explored. Additionally, the factor loadings for selected scales from the Williams and Lawrence (1954) study were compared with the resultants calculated from the circular orderings. Examination of the items as to their position on the scale and their positional relationship to each other were also examined.

Problem Statements

This study systematically investigated each of the following areas:

1. Do the item-statements of the MMPI show variance on each of the two dimensions?
2. Do the selected MMPI scales distribute (cover) around the unit circle?

3. Do the items which compose the selected scales show variance on the unit circle?

4. Does Leary's theorized circular structure for selected MMPI scales appear empirically?

5. What do scale comparisons between the present study, Leary's and Williams and Lawrence suggest?

Subjects

The population selected for this study was graduate and undergraduate students majoring in education and psychology at Loyola University of Chicago. All subjects were voluntary participants who could withdraw from the study at any time. Each participant was informed prior to their participation that the overall purpose of the study was to scale personality items and that the group data as a whole was of interest. The subjects were told that the study was not an investigation of their individual personalities but that each participant would perform a function analogous to that of a normative group in classical test contruction procedures.

Only those voluntary participants who would spend the required time (approximately 3-4 hours) and promptly return the materials were included. In all there were 110 male and 117 female student participants who volunteered for this study.

Procedure

The items for this investigation were taken from the Minnesota Multiphasic Personality Inventory (Hathaway and McKinley, 1943, 1970). Each participant received the full 566 item MMPI (see Appendix A3.1) for scaling onto two bipolar dimensions. The dimensions were Sub-

mission-Dominance and Hate-Love, with each dimension anchored by the adverbs: Extremely, Strongly, Moderately, Mildly and Neutral. Thus, every subject scaled each MMPI item twice, once on the Submission-Dominance dimension and once on the Hate-Love dimension.

The subjects, in class size groups, were given a brief explanation of the study and then a detailed explanation with examples of the scaling procedure. They were informed that the investigator was attempting to study the scaling of the MMPI test items, but that this procedure would not allow anyone to make any inferences about their individual personality; that there were no right or wrong answers; and that the experimenter wanted to know, only, how a relatively normal group of subjects would scale the items on the two bipolar dimensions. Each subject was then given an envelope containing two instruments. The first contained the 566 items of the MMPI along the left side of the page and the nine point bipolar Likert scale for the Submission-Dominance dimension along the right side of the page with corresponding grids next to each item (see Appendix A3.2). The second instrument contained the exact same material as the first except that the second had the Hate-Love dimension along the right side of the page with the corresponding grids (see Appendix A3.3).

Subjects were then told to open the envelopes and remove both instruments. They were informed that their task was to make a judgement as to where on the nine point scale each item should be placed for each of the two dimensions. The experimenter then demonstrated on the blackboard with bogus items how the process was to continue. After questions had been answered, subjects were dismissed and told to

return the envelopes sealed within the week. The only identifying information required of the subjects was to place their sex type on the envelope flap. All materials were collected within the specified period.

Statistical Analysis

The instruments were inspected for completeness as they were returned. A coding system was developed whereby each instrument could be identified by sex type. The instruments were then keypunched onto standard IBM cards with the responses of the Submission-Dominance dimension positioned first, followed by the responses of the Hate-Love dimension for each individual by sex type. The punched cards were used as imput into an SAS routine for frequency distributions and the following univariate statistics: mean, standard deviations, standard errors, median, interquartile range, skewness and kurtosis for the male, female, and total (combined) groups.

The Kolmogorov-Smirnov one-sample test was used to determine the goodness-of-fit between the frequency distribution for each item and the normal distribution. That is, it was concerned with the degree of agreement between the distribution of the set of sample values (observed frequencies) and the theoretical (normal) distribution. It therefore, can determine whether the distributions in the sample can reasonably be thought to have come from a population having a normal distribution. A significant Kolmogorov-Smirnov test indicates that the distribution of responses for an item was not similar to the normal distribution and, therefore, shows random scaling frequencies (a con-

fusion factor) by the participants. These random responses (uniform distributions) also suggest which items are inappropriate to the Submission-Dominance or Hate-Love dimensions.

The Kolmogorov-Smirnov two-sample test (two-tailed) was applied to determine differences between males and females. This test determined whether two independent samples have been drawn from the same population (or from populations with the same distribution). The two-tailed test is sensitive to any kind of difference in the distributions from which the two samples were drawn, either differences in location (central tendency), dispersion or skewness. If the two samples have, in fact been drawn from the same population distribution, then the cumulative distributions of both samples may be expected to be fairly close to each other. However, a significant Kolmogorov-Smirnov test indicates that the two sample cumulative distributions (the male distribution and the female distribution in this case) are too far apart at any point and, therefore, the samples come from different populations. Any items which display significant differences in the frequency of response on the nine point scale for either the Submission-Dominance or Hate-Love dimensions should be omitted from further analysis.

The two-sample t-tests for independent groups were applied to the item means of the male, female and total (combined) groups on the Submission-Dominance and Hate-Love dimensions. The t-test determined which items had scale value means not significantly different from the neutral, or zero point on the nine point Likert scale. The items which showed non-significance were scaled as neutral by the participants in

this study on either or both dimensions. These neutral scaled items were considered indeterminate as to their angular scale values allowing the inference to be made that these items were not scalable or undefined on the bipolar two-dimensional continuum.

The scales from the Williams and Lawrence (1954) study were plotted by using the appropriate items for each scale and the circular scale values for the items. The published scale intercorrelations from the above study were subjected to an SPSS principle component factor analysis with an unrotated solution. Four factors emerged; however, taking the first two to be most important, the loadings were plotted with factor 2 used as the cosine (x-axis) and factor 1 as the sine (y-axis). The angular position for each scale and vector length were determined from the loadings. Plots of the angles were made.

Determining Item Angles

After inspection of the freguency distributions was completed, the individual item angles were calculated. The means for each item, (that is, the mean for the item on the Submission-Dominance dimension and the mean for the item on the Hate-Love dimension) were used to obtain the item's Cartesian coordinate on the circular continuum. The angle between the two coordinates was calculated by the following formula:

$$\theta = \tan^{-1} (y/x).$$

The vector length was obtained by:

$$r = \sqrt{x^2 + y^2},$$

where x equals the scale mean for the item on the Hate-Love dimension and y equals the scale mean for the item on the Submission-Dominance dimension. The sine of the angle was then calculated by:

$$\sin \theta = \frac{y}{r}$$

and the cosine of the angle as:

$$\cos \theta = \frac{x}{r}$$

Using the sines and cosines as coordinates, a resultant vector was determined for items which constitute the scales. The resultant was obtained by:

$$\theta \arctan \left(\frac{\sum \sin \theta}{\sum \cos \theta} \right) \text{ and,}$$

$$\text{length } r = \sqrt{\sum (\cos\theta)^2 + (\sin\theta)^2}.$$

Summary tables are provided in Chapter IV: Results to elaborate and further clarify the methods used.

CHAPTER IV

RESULTS

This chapter presents the data analysis of the information collected from the participants of this study. The analysis follows the methodology presented in Chapter III and should be considered exploratory. The individual scales of the MMPI were examined and comparisons were made with the Williams and Lawrence (1954) study and with Leary's structure for the MMPI described in Chapter II. The descriptive information presented here therefore, provides a systematic analysis and interpretation of the study's data.

Frequency Distribution

Appendix A4.1 contains the frequency distributions for each item statement on the Submission-Dominance dimension. Each item is presented with the frequency distribution for the Male, Female and Total group. The nine point Likert categories are coded as: -4 (extremely submissive) through +4 (extremely dominant). The population size (N) is also provided. Appendix A4.2 presents the frequency distributions for the Hate-Love dimension. Inspection of these tables reveals very few items which were not scaled by all participants; male (N=110), female (N=117). This provides some assurance that participants were

indeed performing the task as assigned.

Additional analysis was performed on the frequency distributions for each item on the Submission-Dominance and Hate-Love dimensions. The Kolmogorov-Smirnov one-sample goodness-of-fit test was used to determine the degree of agreement between the observed frequencies and the normal distribution. A significant Kolmogorov-Smirnov test indicates a random scaling of frequencies by the participants. Those items showing random responses (uniform distributions) should be deleted from further analysis. The results of the Kolmogorov-Smirnov one-sample test revealed no item distributions which were not significantly different from the normal distributions.

Table 4.1 presents the items which evidenced a statistically significant difference of $p \leq .01$ on the Kolmogorov-Smirnov two sample test. These items with $p \leq .01$ reflect a sex difference in the frequency distribution of the items. Inspection of this table reveals two items that show sex differences on the Submission-Dominance dimension and 15 items that show sex differences on the Hate-Love dimension. Only one item, number 074, appears to exhibit a sex difference on both dimensions and seems a reasonable difference by sex from the items content.

These results as presented in Table 4.1 are shown to have occurred only slightly above change level and may, in fact, be eliminated or have others added by a different scaling group. Thus, although the sex differences may be real, only a cross-validation study would tell. Since the sex differences are shown to be small and may be due only to chance, the total distribution (male and female groups combined) was

Table 4.1

Male-Female Differences

Submission-Dominance Dimension

ITEM	K-S	STATEMENT
074	0.000	I have often wished I were a girl. (OR if your are a girl) I have never been sorry that I am a girl.
349	0.004	I have strange and peculiar thoughts.

Hate-Love Dimension

ITEM	K-S	STATEMENT
016	0.008	I am sure I get a raw deal from life.
074	0.000	I have often wished I were a girl. (OR if you are a girl) I have never been sorry that I am a girl.
080	0.006	I sometimes tease animals.
085	0.002	Sometimes I am strongly attracted by the personal articles of others such as shoes, gloves, etc. so that I want to handle or steal them though I have no use for them.
104	0.008	I don't seem to care what happens to me.
110	0.004	Someone has it in for me.
145	0.006	At times I feel like picking a fist fight with someone.
177	0.010	My mother was a good women.
218	0.002	It does not bother me particularly to see animals suffer.
223	0.007	I very much like hunting.
363	0.008	At times I have enjoyed being hurt by someone I loved.
393	0.004	Horses that don't pull should be beaten or kicked.
396	0.003	Often, even though everything is going fine for me, I feel that I don't care about anything.
413	0.005	I deserve severe punishment for my sins.
441	0.000	I like tall women.

used for further analysis.

t-test on the Means

Appendix B4.1 provides the item number, N, mean, and standard deviation for the males on the 566 MMPI items; first on the Submission-Dominance dimension and then on the Hate-Love dimension. Appendix B4.2 provides the same information for the females.

Summary Table 4.2 presents the total group (male and female combined) item number, N, mean, and standard deviation on the Submission-Dominance dimension and on the Hate-Love dimension.

The two-sample t-test for independent groups was performed on each item from Table 4.2. The t-test statistic determined those items not significantly different from zero. That is, the t-test on each item mean, revealed any items which were not significantly different from the neutral (or zero point) on the nine point scale. These items were marked with an asterisk on the two dimensions. It is presumed that items not significantly different from zero ($p \leq .01$) are not defined on that dimension for the current participating group and are judged by the subjects as neutral. Table 4.2 shows 81 items as undefined on the Submission-Dominance dimension and 79 items as undefined on the Hate-Love dimension.

For the purposes of our analysis; however, Table 4.3 presents those items which show a double zero, that is, items which are undefined on both dimensions. There are only 24 items presented in Table 4.3 as "not scalable" to the frame of reference currently being used. This table gives the item number and the item-statement. It would

Table 4.2

Table of 566 MMPI Items with Means, Standard Deviations, Number of Subjects for the Total Group (Males and Females); Submissive-Dominance Dimension then Hate-Love

ITEM	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.
001	227	0.7709	1.4453	227	0.8194	1.3883
002	226	1.3673	1.3507	226	1.5088	1.3106
003	226	1.1239	1.3107	227	1.3700	1.4094
004	*227	-0.1278	1.5217	224	0.6161	1.4315
005	227	-0.2907	1.5837	226	-0.3982	1.5028
006	227	1.0044	1.3969	226	0.3894	1.7381
007	227	0.4449	1.2446	227	0.5727	1.2683
008	226	1.5088	1.3735	227	1.8106	1.3083
009	225	1.1244	1.5126	227	1.1718	1.4209
010	225	-1.0267	1.3460	227	-0.8149	1.3274
011	*226	-0.0531	1.6751	*227	0.2335	1.3963
012	227	1.1278	1.3718	227	1.2775	1.3882
013	*226	0.1637	1.8914	224	-0.7455	1.6815
014	225	-0.7822	1.5270	225	-1.1511	1.3965
015	227	-0.7753	1.5479	225	-1.1778	1.4622
016	226	-1.1903	2.0836	226	-1.8584	1.6213
017	226	1.2434	1.7608	225	2.1156	1.5045
018	*224	0.2054	1.4588	*225	0.0311	1.5624
019	225	0.7422	1.7127	*225	-0.0222	1.6595
020	225	1.0133	1.3279	225	1.1378	1.3835
021	*224	0.1696	1.7635	224	-0.5402	1.8187
022	226	-0.9602	1.6795	227	-0.5903	1.6414
023	226	-1.1416	1.4929	227	-1.4714	1.4337
024	225	-1.2222	1.7383	225	-1.4311	1.5884
025	224	0.8214	1.5688	226	1.0973	1.6464
026	*224	-0.3125	1.8144	*227	0.0088	1.4297
027	224	-1.5714	1.8665	226	-1.7478	1.5953
028	225	1.1067	1.9103	227	-1.3656	1.7507
029	225	-0.8000	1.5382	226	-1.0664	1.4937
030	225	0.5822	1.4496	227	-0.3259	1.5683
031	224	-0.8304	1.5057	227	-1.1674	1.4136
032	225	-0.7911	1.3745	227	-0.7093	1.3083
033	226	-0.3053	1.5289	227	-0.4846	1.4765
034	225	-0.6844	1.3506	227	-0.7885	1.3759
035	225	-1.3911	1.9360	225	-1.6889	1.6559
036	226	0.8009	1.5261	227	0.5771	1.4686
037	225	0.8400	1.5644	227	0.5154	1.5638
038	*226	0.0309	1.5843	227	-0.7665	1.5381
039	226	0.8849	1.9878	227	-1.2775	1.7843
040	225	-0.7378	1.6057	*227	0.2555	1.5302
041	227	-1.1586	1.6620	226	-0.8363	1.5733
042	*226	-0.2434	1.7958	225	-1.0133	1.4031
043	225	-0.8800	1.5203	226	-1.3496	1.3456

Table 4.2 (Continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
044	224	-1.0357	1.5354	222	-1.4775	1.4418
045	*227	0.0705	1.6115	226	-0.8319	1.3850
046	225	1.6933	1.4108	225	1.4311	1.3938
047	227	-0.6696	1.4019	226	-0.8673	1.3064
048	226	-0.9071	1.6069	225	-1.1511	1.4156
049	227	0.7445	2.1236	225	-1.2711	1.8666
050	227	-1.0088	1.8861	226	-0.6903	1.7439
051	227	1.3700	1.5094	227	1.2154	1.4969
052	226	-0.5885	1.9307	227	-0.7489	1.4370
053	*227	-0.2070	2.0602	*227	0.2819	1.8696
054	226	1.4292	1.3389	226	1.9292	1.3214
055	227	0.6344	1.5722	227	0.3436	1.5532
056	*227	0.2026	1.8633	226	-0.9336	1.3920
057	226	1.6858	1.3641	226	1.7301	1.2157
058	*226	-0.0619	1.9990	225	0.5378	1.6929
059	*226	-0.3097	2.0334	226	-0.9735	1.7047
060	226	0.3628	1.3732	*226	0.0531	1.1988
061	225	-1.0667	1.6366	227	-1.4493	1.5574
062	225	-0.6133	1.5373	223	-0.7309	1.4517
063	227	0.7665	1.5946	225	0.3156	1.5477
064	227	1.1938	1.7339	226	-0.3009	1.4811
065	226	1.3496	1.8919	227	2.7401	1.5538
066	*227	-0.1498	1.9358	*227	0.0308	1.8847
067	227	-0.8767	1.8248	227	-0.3700	1.6893
068	227	0.3480	1.4103	*227	0.1718	1.3989
069	*227	0.2907	2.1253	226	0.5133	2.2983
070	*223	-0.1839	1.4909	*226	0.2124	1.2992
071	227	0.7445	1.6472	227	-0.7841	1.4821
072	227	-0.7841	1.5831	226	-0.9867	1.4189
073	227	2.3524	1.5569	225	1.8533	1.6066
074	*226	0.2345	2.1381	227	0.4493	2.1618
075	226	0.9469	1.4687	*226	-0.1283	1.5624
076	227	-1.2203	1.5699	227	-1.1850	1.5201
077	227	0.5242	1.6784	227	1.3877	1.3888
078	226	0.6637	1.5062	225	1.4667	1.2027
079	226	1.0487	1.5412	225	0.5111	1.5414
080	224	0.7366	1.6423	225	-0.8622	1.5188
081	224	0.4419	1.5318	227	0.7621	1.4377
082	226	-1.5398	1.8014	227	-0.7974	1.4246
083	225	2.0044	1.3709	226	1.5221	1.4703
084	226	-0.6593	2.1754	227	-0.5551	1.8459
085	226	-0.4867	2.0160	227	-1.1542	1.9728
086	226	-1.5708	1.9657	227	-1.2687	1.5148
087	*225	0.1956	1.4445	227	0.7709	1.5053
088	222	1.5180	1.3410	225	1.9022	1.2497
089	226	1.1947	1.5018	226	-0.3628	1.4083
090	*225	-0.2222	1.5597	*227	-0.0044	1.4528

Table 4.2 (Continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
091	226	-0.3982	1.8113	*227	-0.1057	1.6476
092	224	0.4821	1.5092	225	0.7956	1.6402
093	226	0.7611	1.5987	225	-0.6844	1.7811
094	223	-0.6726	1.7204	227	-0.9779	1.6169
095	224	0.3393	1.8021	227	1.0749	1.5568
096	*224	0.1919	1.6657	226	0.9690	1.6876
097	226	0.6062	1.8997	227	-0.9736	1.7995
098	226	0.6062	1.9206	227	1.3524	1.6640
099	225	1.4222	1.5453	227	1.3700	1.5528
100	226	-0.6460	1.7097	*227	-0.0088	1.4079
101	226	1.4867	1.7133	226	1.3451	1.6372
102	226	0.3451	1.9009	*227	0.1674	1.8716
103	225	0.4311	1.5224	227	0.3744	1.2815
104	226	-1.6018	1.9116	225	-1.6444	1.6002
105	*225	0.0533	1.5020	226	-0.6195	1.4287
106	226	-1.2743	1.7575	224	-1.6429	1.5291
107	225	1.4267	1.4346	226	2.1637	1.1174
108	226	-0.5133	1.3767	224	-0.7098	1.2708
109	224	1.0089	1.9176	226	-1.0088	1.6970
110	225	-1.2889	1.9846	225	-1.8667	1.5811
111	222	-0.6622	1.8170	*226	0.1504	1.4374
112	226	1.9602	1.5953	226	1.5000	1.4674
113	225	1.4844	1.7219	226	1.5531	1.4109
114	225	-0.7689	1.6174	226	-0.9513	1.5355
115	225	0.6222	1.8909	226	1.4513	1.6302
116	224	0.9241	1.4728	226	0.5000	1.5783
117	*223	-0.0045	1.7719	224	-0.4419	1.5376
118	226	0.4248	1.7039	225	-0.6533	1.3379
119	226	0.4336	1.4103	226	0.3805	1.1378
120	*226	-0.0487	1.4243	*226	-0.1195	1.1996
121	227	-1.3348	1.8608	227	-1.7709	1.5516
122	224	1.3080	1.4970	226	1.2876	1.4365
123	225	-1.2222	1.8309	227	-1.3392	1.5123
124	226	0.4867	1.6472	224	-0.8705	1.6310
125	226	-0.6858	1.6148	227	-1.0044	1.5951
126	226	1.1195	1.4603	227	1.1718	1.3798
127	*227	0.2687	1.8345	225	-0.5289	1.5897
128	226	0.6018	1.5146	227	0.2379	1.2746
129	*225	-0.1467	1.4364	225	-0.6622	1.3666
130	*226	0.2434	1.5313	*227	-0.0220	1.6115
131	224	0.8527	1.5214	227	0.4229	1.4412
132	226	0.3894	1.5801	227	1.2379	1.4682
133	*226	0.2079	1.7039	*227	0.1938	1.5649
134	226	0.5575	1.5052	227	0.3259	1.3134
135	225	0.7644	1.6236	227	-0.3259	1.4296
136	226	-0.3584	1.6110	227	-0.7533	1.3956
137	227	0.9692	1.4975	227	1.5507	1.2518

Table 4.2 (Continued)

ITEM	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.
138	227	-1.0529	1.8689	227	-1.0485	1.6991
139	*227	-0.0132	2.0513	227	-1.6916	1.5775
140	226	0.8230	1.4125	227	1.4846	1.2492
141	226	-1.0796	1.9050	226	0.0973	1.3264
142	227	-1.2731	1.6630	227	-1.0396	1.3314
143	*226	0.2610	1.8709	226	0.9735	1.6328
144	227	0.6784	1.9388	227	0.0396	1.9446
145	227	1.0617	1.9269	227	-1.2379	1.6632
146	227	0.5859	1.6842	*227	-0.1013	1.5381
147	225	-0.9733	1.4328	227	-0.7269	1.2675
148	227	0.8899	1.6593	227	-0.8899	1.5317
149	*226	-0.1726	1.3829	227	0.2775	1.3722
150	225	1.8400	1.4794	227	0.8502	1.5123
151	226	-1.2079	2.0475	227	-2.1366	1.5724
152	226	0.4867	1.4643	227	0.6432	1.3827
153	227	1.0220	1.4648	227	1.1894	1.4061
154	226	0.4823	1.7919	*226	0.3009	1.7833
155	226	0.4823	1.2796	226	0.2301	1.2148
156	227	-0.9163	1.6039	226	-0.8451	1.2851
157	226	-0.8009	1.7359	226	-1.3539	1.3592
158	227	-1.1762	1.7153	226	-0.4867	1.5179
159	227	-0.6299	1.2707	225	-0.6044	1.3657
160	224	1.5580	1.5779	225	1.7778	1.7689
161	224	-0.5446	1.3183	225	-0.5511	1.3490
162	226	0.4558	1.9021	223	-1.0493	1.5014
163	227	1.1806	1.5075	226	0.7345	1.3761
164	225	1.3556	1.4292	225	1.6533	1.1933
165	226	0.6460	1.8591	225	0.9067	1.5484
166	227	-0.6784	1.6314	226	-0.6991	1.4009
167	225	0.3911	1.7444	226	-0.7566	1.6297
168	226	-1.1903	1.9169	225	-1.4267	1.6299
169	227	1.2907	1.6003	222	0.7613	1.5579
170	226	1.5796	1.7296	225	0.5822	1.7813
171	227	-0.8766	1.6083	226	-0.6106	1.4075
172	227	-0.5242	1.6757	227	-0.3084	1.3896
173	227	1.0044	1.5007	227	1.5374	1.3344
174	227	0.6388	1.6217	*227	0.1629	1.4889
175	227	0.4758	1.5002	*226	0.1814	1.4415
176	226	0.8142	1.6086	*227	0.0396	1.6518
177	227	1.3259	1.6747	223	2.4305	1.2241
178	225	0.7778	1.4834	227	1.1629	1.3386
179	227	-0.7533	1.5517	227	-0.7445	1.4712
180	227	-0.8590	1.5678	226	-0.4248	1.5191
181	227	1.2863	1.3606	227	0.6740	1.4140
182	227	-1.1982	1.7998	227	-1.4317	1.6771
183	227	0.9736	1.6561	226	-0.8274	1.6549
184	227	-1.0396	1.7431	225	-1.2133	1.5751

Table 4.2 (Continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
185	227	0.6916	1.5349	227	0.8987	1.3282
186	226	-0.9071	1.3384	227	-0.8149	1.2377
187	226	0.5664	1.4259	227	0.4493	1.4546
188	227	0.7225	1.4657	227	0.6740	1.3499
189	227	-1.0132	1.6469	227	-1.1409	1.3295
190	226	0.5309	1.5030	227	0.5154	1.4401
191	226	-1.0221	1.7034	227	-1.1762	1.6088
192	227	0.8194	1.5279	227	0.6476	1.4540
193	226	0.5398	1.5608	227	0.3921	1.4905
194	225	-0.9467	1.7543	225	-1.1067	1.5345
195	226	0.9779	1.4710	226	-0.3761	1.6720
196	226	1.3717	1.5301	227	1.8590	1.3526
197	226	-0.7920	1.7553	226	-1.5885	1.4828
198	224	0.6027	1.3487	*226	0.1947	1.2569
199	227	1.1409	1.5593	226	1.0531	1.4687
200	227	-0.9163	1.8995	227	-1.5991	1.5234
201	226	-0.9779	1.7574	*226	-0.2168	1.6524
202	226	-1.5398	1.9552	226	-2.0664	1.6759
203	227	0.6960	1.4695	226	1.2655	1.5435
204	227	0.8590	1.4777	227	1.1718	1.3669
205	226	-0.5133	1.9373	227	-1.4361	1.5426
206	226	0.5398	1.9711	227	1.1938	1.7108
207	225	1.4222	1.3966	226	1.8097	1.2733
208	226	1.1372	1.7240	227	1.2511	1.3964
209	226	-1.2876	2.1127	227	-1.8722	1.7337
210	226	-0.6106	1.4602	225	-0.7867	1.3123
211	225	-0.8133	1.4943	225	-0.9067	1.3513
212	226	-1.1814	1.7430	225	-1.3778	1.3511
213	227	-1.0661	1.7473	225	-0.5556	1.4662
214	*227	0.2775	1.6096	*225	0.0267	1.4758
215	226	-0.7788	2.1071	225	-1.2622	1.7570
216	224	-0.7634	1.7157	225	-1.4444	1.7211
217	226	-0.6769	1.8005	225	-0.7556	1.4844
218	227	0.4537	2.1516	225	-1.4844	1.8252
219	226	0.7124	1.5893	225	0.7600	1.4866
220	225	1.4444	1.8917	225	2.8978	1.4340
221	227	0.9779	1.4311	225	1.3482	1.2930
222	224	0.8750	1.6217	225	0.4089	1.5300
223	227	1.2291	1.8194	224	0.7545	2.1961
224	*225	0.2222	1.8039	225	-0.7200	1.4258
225	227	0.3039	1.2338	*225	-0.1333	1.2211
226	225	0.4978	1.5616	224	-1.0402	1.5309
227	227	-0.5242	1.4794	223	-0.3587	1.3545
228	226	1.2788	1.3879	225	1.0311	1.3140
229	225	0.8444	1.5259	226	1.1327	1.3565
230	227	0.4818	1.4644	226	0.3407	1.3009
231	224	1.2545	1.2994	226	1.0841	1.4164

Table 4.2 (Continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
232	226	0.4292	1.8943	226	0.8274	1.5582
233	227	1.3789	1.7466	*227	-0.0220	1.7509
234	227	0.7577	1.5367	227	-0.3348	1.3738
235	227	1.7313	1.5523	225	0.7733	1.4932
236	224	-0.7277	1.6626	225	-0.9467	1.4195
237	225	-0.4933	1.6095	227	0.3612	1.4549
238	*226	-0.0354	1.7810	226	-0.5531	1.4695
239	227	-0.4669	1.6913	227	-0.6608	1.9809
240	225	0.8444	1.9058	*226	0.2876	1.7388
241	224	-0.2946	1.5798	*224	-0.1786	1.4028
242	227	0.6211	1.3688	227	0.4009	1.2907
243	225	0.6889	1.4082	227	0.5947	1.3901
244	*226	0.0973	1.5998	226	-0.6239	1.3284
245	227	-0.4758	1.6625	227	-1.3656	1.3995
246	226	-0.7522	1.3954	227	-0.9031	1.3235
247	227	-0.3480	1.6636	226	-1.0133	1.5846
248	227	1.1586	1.4759	227	1.2511	1.6384
249	*227	0.0793	2.0314	*226	-0.2699	1.8744
250	225	1.1511	1.7409	225	-0.4044	1.6932
251	227	-0.9692	1.4796	226	-0.9425	1.4579
252	227	-0.8678	1.8554	227	-1.6344	1.5409
253	227	0.3348	1.6028	227	0.5463	1.5318
254	227	0.6872	1.6547	*227	0.2291	1.7499
255	227	0.6652	1.6355	227	0.3568	1.2231
256	226	-0.4469	1.6705	226	-0.3097	1.5781
257	227	2.1542	1.2754	225	1.6756	1.2125
258	227	1.2907	2.0185	226	2.1637	1.5069
259	226	-0.6726	1.5257	226	-0.3894	1.4294
260	226	-0.7832	1.4733	226	-0.6903	1.3733
261	*226	0.2124	1.5287	227	1.0617	1.2286
262	227	0.6608	1.4828	227	0.4802	1.4704
263	227	-0.4053	1.4059	227	-0.5683	1.3198
264	226	2.5044	1.5585	227	1.8767	1.5147
265	224	0.5357	2.2468	227	-1.1894	1.7735
266	223	0.6502	1.4122	225	0.7244	1.3741
267	226	-0.8451	1.4447	227	-0.5374	1.3278
268	225	0.7067	1.4648	226	1.1549	1.1577
269	225	1.3244	1.9334	227	-0.7974	1.7808
270	226	0.5398	1.7589	*227	0.1454	1.5716
271	226	0.8894	1.8976	*227	-0.8811	1.5078
272	226	1.5398	1.3468	225	1.4844	1.3266
273	224	-0.6607	1.3463	226	-0.7965	1.4432
274	226	0.7743	1.4507	226	0.9027	1.4695
275	224	-1.7455	2.0273	225	-1.5244	1.7729
276	225	1.0000	1.5526	226	2.1769	1.1641
277	226	0.6106	1.5517	*226	0.0265	1.7561
278	226	-1.0221	1.5873	226	-0.9912	1.9996

Table 4.2 (Continued)

ITEM	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.
279	*223	-0.0359	1.1735	*226	-0.0354	1.2679
280	225	0.5867	1.7507	227	-0.5639	1.5455
281	*225	0.1289	1.2161	*226	-0.0354	1.2714
282	227	0.3084	1.6190	227	-0.7533	1.6431
283	227	0.9956	1.4619	227	1.1542	1.6207
284	227	-0.9824	1.8240	226	-1.0133	1.5818
285	227	0.3128	1.4123	226	0.5177	1.2831
286	*227	-0.2070	1.8853	*226	0.2699	1.7289
287	226	1.0133	1.4772	226	0.6327	1.2338
288	227	-0.9956	1.5299	227	-1.2115	1.5598
289	227	0.9604	1.7329	227	-0.8722	2.0212
290	*227	0.2335	1.9009	226	-0.6460	1.5080
291	225	-1.7289	1.7119	227	-1.3965	1.4548
292	227	-0.8326	1.6954	227	-0.6872	1.2459
293	227	-1.5991	1.8101	227	-1.3833	1.5309
294	227	0.4846	1.7882	225	0.7022	1.7101
295	227	0.2951	1.4743	227	1.1233	1.2874
296	222	0.8514	1.4047	224	1.2857	1.4327
297	227	-0.8678	1.4635	227	-0.8458	1.3561
298	227	0.3304	1.7092	227	-0.4229	1.4925
299	225	0.8978	1.5849	227	0.7137	1.3671
300	*224	0.2946	1.7027	227	-0.4978	1.5209
301	224	-1.1071	1.5085	227	-1.2467	1.4607
302	225	0.5200	1.6746	226	0.5796	1.4773
303	225	-0.5022	1.8080	226	-0.7301	1.4430
304	225	-1.0622	1.7742	226	-0.7168	1.4816
305	225	-1.1822	1.5719	226	-1.0929	1.4622
306	*225	0.1378	1.6886	226	0.3982	1.4729
307	*225	-0.1600	1.8759	226	-0.7832	1.3070
308	223	0.3453	1.7584	225	-0.7111	1.6879
309	224	0.8884	1.3397	226	1.0265	1.2108
310	224	0.8661	1.3326	226	1.1372	1.3279
311	*221	0.0452	1.6033	225	-0.6489	1.4627
312	224	-0.5402	1.7483	227	-1.5683	1.4949
313	223	0.6996	1.7306	227	-0.8987	1.5974
314	225	-0.3244	1.5517	227	-0.8062	1.4103
315	225	-1.4267	1.9098	227	-1.8282	1.6433
316	227	0.5507	1.6269	226	-0.5265	1.5119
317	*227	-0.0881	1.6699	226	0.4912	1.4765
318	227	1.4141	1.3188	224	1.5938	1.3293
319	*225	0.0622	1.5771	225	-0.9778	1.3805
320	*225	0.1556	1.4292	*226	0.2212	1.2909
321	225	-0.8756	1.5875	224	-0.2991	1.3837
322	224	-0.2902	1.5477	224	-0.5669	1.2829
323	227	-0.3744	1.3876	226	-0.4292	1.3910
324	*227	-0.3348	1.9581	225	-1.1911	1.7688
325	226	-0.7699	1.3696	226	-0.8938	1.3621

Table 4.2 (Continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
326	226	-1.0133	1.6478	226	-0.7965	1.4946
327	226	-0.5575	1.8424	225	-0.8311	1.5230
328	227	-0.6740	1.4046	226	-0.7345	1.2859
329	*227	-0.0132	1.5755	226	-0.5354	1.4302
330	226	0.6283	1.5184	223	0.4395	1.6912
331	226	-1.1726	1.8765	226	-1.8496	1.3806
332	227	-0.7313	1.3994	225	-0.6622	1.2253
333	226	-1.1239	1.7029	226	-1.4381	1.4600
334	227	-0.7004	1.3496	224	-0.8393	1.2954
335	226	-0.5398	1.5204	227	-0.4669	1.2595
336	227	0.4934	1.8079	227	-1.0705	1.3117
337	226	-0.8849	1.6587	226	-1.3009	1.4959
338	226	-0.5000	1.6846	226	-1.0619	1.5848
339	226	-1.9115	2.2053	225	-2.5467	1.7599
340	225	0.3200	1.7073	*225	0.1600	1.5501
341	*226	-0.1991	1.5549	227	-0.5727	1.3689
342	224	-0.3482	1.6167	224	-0.7545	1.3518
343	226	-0.5309	1.5695	227	-0.3612	1.2836
344	226	-1.3628	1.7104	226	-1.1150	1.4499
345	227	-1.0881	1.5603	226	-0.8009	1.4454
346	227	-0.5154	1.4278	227	-0.5110	1.3773
347	226	0.7478	1.5813	227	0.8062	1.6150
348	*224	0.0312	1.5999	224	-0.4509	1.3249
349	225	-0.5467	1.4107	226	-0.7124	1.3438
350	227	-0.8678	1.5798	227	-0.9427	1.4052
351	227	-1.1850	1.6161	227	-1.1057	1.4227
352	226	-1.2920	1.6636	226	-0.9735	1.4108
353	226	1.2079	1.6589	226	0.8363	1.5534
354	224	-1.2188	1.5449	226	-0.9867	1.4468
355	227	0.6519	2.1896	226	-1.5841	1.8293
356	225	-0.6889	1.3891	225	-0.6444	1.2166
357	227	-1.3039	1.6986	225	-0.9111	1.4051
358	226	-0.8496	1.6040	226	-1.3009	1.3623
359	226	-0.9557	1.4659	227	-0.8767	1.3179
360	227	-1.4889	1.6029	227	-1.3436	1.3123
361	227	-0.9559	1.5763	226	-0.6460	1.4902
362	227	-0.5286	1.7328	226	0.3142	1.4586
363	226	-1.1681	1.9862	227	-0.8370	1.9496
364	226	-1.0619	1.7322	227	-1.6432	1.4049
365	225	-0.8222	1.5161	225	-1.0044	1.2695
366	225	-1.0178	1.6283	227	-1.0352	1.3917
367	227	0.9515	1.6834	*226	0.1372	1.4495
368	225	-0.8133	1.7089	227	-0.5463	1.4425
369	226	0.9690	1.4091	227	0.7885	1.3532
370	225	0.6444	1.5720	226	-0.4336	1.9178
371	222	0.7793	1.4679	226	0.4646	1.3535
372	226	0.8584	1.4598	227	0.7929	1.1959

Table 4.2 (Continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
373	227	1.0617	1.8968	226	0.9602	1.7213
374	226	-0.3186	1.2668	226	-0.2876	1.1553
375	227	-0.8502	1.5698	226	-0.9690	1.4465
376	224	0.4018	1.3524	227	0.8282	1.3242
377	226	-0.8849	1.6152	227	-0.3744	1.3554
378	226	0.6681	1.7335	226	-0.6858	1.6556
379	224	0.7188	1.3907	224	0.5313	1.3720
380	224	1.4464	1.4415	226	0.4336	1.4166
381	226	1.0266	1.7535	227	-0.7885	1.4479
382	225	-0.6489	1.5998	*227	-0.1806	1.5931
383	*226	-0.1150	1.6613	227	-1.0088	1.4604
384	226	-0.7212	1.6268	227	-0.6960	1.4604
385	226	-0.8009	1.5348	227	-0.6960	1.4604
386	226	0.9115	1.6549	*227	0.1894	1.5837
387	226	0.2965	1.6588	226	-0.6637	1.4429
388	227	-1.1982	1.6777	226	-1.0398	1.4246
389	226	-1.1416	1.4321	225	-0.9689	1.3409
390	226	-0.4336	1.4291	225	-0.3556	1.5317
391	225	1.2978	1.5939	226	1.8584	1.6295
392	225	-0.9822	1.7677	226	-1.1637	1.6957
393	227	0.6167	2.5535	224	-2.1473	1.6889
394	227	-0.4053	1.6167	225	0.8044	1.1406
395	226	-0.7743	1.6938	226	-0.6372	1.3828
396	226	-0.8849	1.5362	226	-1.0619	1.3970
397	227	-1.2599	1.6876	226	-1.0309	1.6286
398	226	-0.9071	1.7449	*226	0.1637	1.5361
399	225	0.5422	1.6089	224	0.6786	1.5195
400	226	1.3761	1.5420	223	1.4888	1.4484
401	227	1.0661	1.5198	224	0.5045	1.5063
402	*225	-0.0089	1.4729	226	0.4336	1.2284
403	226	1.4336	1.5107	226	1.8849	1.4252
404	226	0.3539	1.6488	227	-0.3700	1.4527
405	225	0.6222	1.5249	226	0.5177	1.3473
406	224	1.1875	1.5820	*226	-0.2168	1.5866
407	225	0.9911	1.4669	225	1.0222	1.3039
408	225	-0.5600	1.9056	*227	-0.1542	1.6849
409	225	0.3689	1.8082	*226	-0.1283	1.4837
410	225	1.4711	1.5897	226	0.4425	1.8181
411	226	-0.7345	1.8087	227	-1.1586	1.4084
412	223	0.7848	1.4699	226	0.4646	1.4456
413	224	-1.5938	2.0942	227	-1.6035	1.8818
414	225	-0.9733	1.8369	225	-0.9778	1.5102
415	225	1.6222	1.6351	227	1.3612	1.3409
416	*222	-0.1757	1.8349	226	-0.4867	1.6418
417	224	1.2277	1.7377	226	-0.6814	1.6800
418	226	-1.4513	1.7613	226	-1.5841	1.5817
419	*226	0.1947	1.7119	227	-0.5727	1.5191

Table 4.2 (Continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
420	227	-0.2775	1.5678	*227	0.0396	1.5090
421	*227	-0.1145	1.4158	227	-0.3172	1.3323
422	225	-0.8800	1.5056	227	-1.0793	1.2701
423	226	0.6814	1.5159	227	1.3128	1.5238
424	*227	0.1938	1.5536	*226	-0.1150	1.4376
425	226	0.4248	1.4224	226	0.6769	1.2026
426	227	1.4053	1.4247	227	-0.3524	1.4782
427	226	-0.7035	1.4804	227	-0.5815	1.3022
428	227	0.8018	1.3731	227	1.0661	1.2726
429	225	0.8622	1.3672	226	1.2788	1.1952
430	223	1.2646	1.4938	226	1.9956	1.2092
431	227	-0.6432	1.6104	227	-0.6299	1.4527
432	224	1.5045	1.5445	225	0.9022	1.5379
433	225	-0.5556	1.6168	*227	-0.1278	1.4624
434	227	0.8590	1.7288	227	0.7048	1.6606
435	226	0.4602	1.3729	227	0.7357	1.2049
436	227	0.6388	1.4909	*227	-0.2026	1.4705
437	226	0.8053	1.5683	*226	-0.2434	1.5226
438	227	0.6916	1.7779	225	-0.9867	1.8188
439	*226	-0.0309	1.6286	225	-0.5644	1.2162
440	227	0.7974	1.3348	224	1.1607	1.2095
441	225	0.6667	1.4392	225	1.0889	1.2432
442	227	-0.6696	1.6160	225	-0.5422	1.3820
443	225	-1.2844	1.5321	226	-0.5708	1.3087
444	227	-0.4889	1.5808	226	-0.2611	1.3159
445	227	0.9692	1.3449	225	1.3244	1.2162
446	226	0.7079	1.4587	226	0.7434	1.4924
447	226	1.6504	1.5368	*226	0.0664	1.5833
448	227	-1.0749	1.5766	225	-1.0667	1.4174
449	225	1.3289	1.2846	224	1.7634	1.1373
450	224	1.3661	1.3019	224	1.7366	1.2338
451	226	0.8628	1.5674	226	1.4425	1.3059
452	227	1.0396	1.7507	*226	-0.0929	1.8916
453	*225	-0.1022	1.7355	225	-0.2933	1.3865
454	*227	0.1409	2.1093	227	0.6519	1.7818
455	*226	-0.1726	1.5409	*227	-0.0573	1.3005
456	227	0.5991	1.6729	226	-0.2965	1.4744
457	*226	0.1416	2.1139	227	-0.7841	1.6542
458	*226	0.1726	1.9186	*227	-0.2599	1.5959
459	226	-1.0354	1.8496	227	-0.9779	1.4917
460	226	0.3805	1.4473	225	0.4267	1.2905
461	225	0.6889	1.7011	*227	0.0264	1.3695
462	225	0.7111	1.5927	227	0.3965	1.4147
463	227	0.4537	1.3341	226	0.8274	1.3237
464	*227	0.2335	1.4431	*227	-0.0088	1.3469
465	*225	-0.0533	1.5020	226	0.2611	1.4073
466	226	0.7212	1.6019	226	0.5177	1.4884

Table 4.2 (Continued)

ITEM	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.
467	*226	-0.2035	1.3542	*226	-0.0487	1.3139
468	227	-0.4493	1.4966	226	-0.3894	1.5716
469	227	0.6960	1.7193	227	-0.7313	1.5002
470	227	-0.4493	1.9802	227	-1.8282	1.4849
471	*225	-0.1067	1.7262	226	-1.0309	1.3708
472	226	0.5531	1.7151	*227	0.2687	1.7931
473	226	-0.9292	1.6450	227	-0.8590	1.3624
474	227	0.3172	1.3586	*226	0.1372	1.2767
475	*227	-0.0396	1.6625	226	-0.2699	1.2694
476	*227	0.1938	2.2961	*227	0.2203	1.9175
477	*226	0.0973	2.1601	227	0.8106	1.6059
478	227	0.7357	1.3206	227	0.2775	1.3657
479	227	1.1278	1.4349	227	0.9163	1.2505
480	227	-1.1278	1.5590	227	-0.9427	1.3798
481	*225	-0.1600	1.6532	*227	-0.2291	1.3536
482	227	1.0749	1.4075	226	0.7434	1.2912
483	227	0.5947	1.8055	225	1.1644	1.6889
484	*227	-0.2599	1.9367	227	-0.3172	1.6146
485	227	0.4889	1.6331	*227	0.0176	1.5571
486	226	0.5487	1.5520	227	0.2863	1.5859
487	226	-1.3584	1.5916	227	-1.0132	1.3219
488	224	0.2902	1.7643	227	0.9868	1.5066
489	*226	-0.1637	1.6041	227	0.5374	1.5146
490	*226	-0.0796	1.7264	227	0.6167	1.6424
491	226	0.7965	1.8192	227	-1.0044	1.4558
492	225	-0.7511	1.6691	225	-0.8756	1.6181
493	225	0.8489	1.6241	226	0.6991	1.3752
494	225	-1.1289	1.5429	227	-1.0308	1.3806
495	226	1.6150	1.3784	227	0.6432	1.3601
496	226	0.3894	1.3788	*227	0.1542	1.3495
497	226	1.2832	1.4140	227	1.6432	1.2267
498	225	1.6133	1.2841	227	1.3304	1.3603
499	226	-0.6018	1.6414	*225	-0.2178	1.5064
500	*225	0.1644	1.8671	227	0.9163	1.3459
501	226	1.6593	1.2627	227	0.8811	1.2617
502	227	2.0396	1.2313	227	1.2731	1.2176
503	227	-0.5374	1.6596	*227	0.1542	1.1892
504	227	1.2159	1.5887	*226	-0.1327	1.4174
505	227	0.8546	1.6405	225	0.3867	1.5859
506	227	0.5859	1.8010	*227	-0.0881	1.4638
507	*226	-0.2743	1.8074	226	-0.9867	1.5333
508	227	0.7225	1.3786	226	0.8805	1.2715
509	227	-1.2775	1.7212	226	-0.4381	1.4355
510	226	-0.9115	1.7413	226	-1.2566	1.5131
511	225	-0.6533	1.6783	*226	-0.1858	1.3731
512	227	-0.3304	1.8580	227	-1.1233	1.6219
513	226	0.5885	1.3144	224	0.5893	1.2315

Table 4.2 (Continued)

ITEM	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.
514	*226	0.2389	1.7526	225	0.3867	1.7543
515	227	0.7621	1.3876	227	1.1498	1.3118
516	226	0.3142	1.5242	*227	-0.1629	1.4528
517	227	-1.9779	1.7535	227	-1.7137	1.5348
518	227	-1.0396	1.5032	227	-0.8502	1.3484
519	227	-1.1674	1.7162	227	-1.4229	1.4381
520	226	2.0221	1.4405	224	0.9196	1.5713
521	227	1.6476	1.6852	227	1.1498	1.3999
522	227	0.9427	1.5518	227	0.3833	1.5279
523	227	0.9515	1.4055	227	0.3789	1.2923
524	227	0.7181	1.5168	*224	0.2188	1.5333
525	227	-0.5859	1.5329	226	-0.5044	1.4181
526	224	-1.9152	1.7143	225	-1.8089	1.5851
527	227	0.5198	1.3545	223	1.4170	1.4241
528	227	0.4185	1.2678	226	0.4823	1.1670
529	227	0.9471	1.4865	226	1.0664	1.4329
530	227	-0.8811	1.5311	226	-0.6504	1.3155
531	227	-1.5859	1.6921	225	-0.4400	1.3684
532	227	0.9471	1.5101	*227	0.4934	1.2842
533	227	0.5154	1.3448	227	0.1322	1.4111
534	227	1.5683	1.6559	226	0.7965	1.4058
535	227	-0.4581	1.4054	226	-0.5177	1.3539
536	226	0.8539	1.6278	226	-0.9248	1.6623
537	227	1.1145	1.9014	*226	0.2876	1.9463
538	*227	0.0969	1.5108	227	0.6519	1.5336
539	227	0.9031	1.5711	*225	0.1689	1.4723
540	227	0.5330	1.5832	227	0.3304	1.6405
541	227	-0.3524	1.5049	*227	-0.2247	1.3196
542	227	0.2819	1.3952	*226	0.0000	1.5972
543	227	-1.4581	1.4639	225	-1.3956	1.4233
544	227	-0.8502	1.4435	225	-0.8133	1.3696
545	*227	-0.2026	1.2385	*227	-0.0925	1.1503
546	227	0.8370	1.5241	225	1.3378	1.4490
547	227	1.4581	1.4518	226	1.7920	1.1493
548	227	-0.3965	1.5318	223	-0.5471	1.3644
549	226	-1.2965	1.6854	224	-0.9018	1.3557
550	227	0.4537	1.2869	225	0.7600	1.3213
551	226	-0.7168	1.4077	225	-0.3067	1.3259
552	227	0.7709	1.4112	226	1.1947	1.3324
553	227	-1.1409	1.7159	225	-0.9600	1.4860
554	227	0.4185	1.4773	226	1.3539	1.3228
555	226	-1.2522	1.6821	226	-1.1283	1.4595
556	225	0.4267	1.5938	226	0.8097	1.3380
557	*226	0.2257	1.5656	224	0.7366	1.4815
558	*226	-0.0885	1.6629	226	-0.9115	1.5380
559	227	-1.0485	1.4611	226	-0.9823	1.3365
560	226	-0.6681	1.5974	226	-0.9292	1.5476

Table 4.2 (Continued)

ITEM	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.
561	227	1.0837	1.5956	226	1.6726	1.6218
562	227	0.4758	1.7303	226	1.7079	1.5037
563	227	1.1278	1.5129	226	1.1593	1.3569
564	227	-1.1278	1.6366	225	-0.2711	1.4369
565	227	-0.8634	2.0053	226	-1.0133	1.8220
566	227	0.7709	1.5658	225	1.6356	1.2609

Table 4.3

Items Demonstrating Double Zero Means on the

Love-Hate and Submission-Dominance Dimensions

ITEM		STATEMENT
011	---	A person should try to understand his dreams and be guided by or take warning from them.
018	---	I am very seldom troubled by constipation.
026	---	I feel that it is certainly best to keep my mouth shut when I'm in trouble.
053	---	A minister can cure disease by praying and putting his hand on your head.
066	---	I see things or animals or people around me that others do not see.
070	---	I used to like drop-the-handkerchief.
090	---	Once in a while I put off until tomorrow what I ought to do today.
120	---	My table manners are not quite as good at home as when I am out in company.
130	---	I have never vomited blood or coughed up blood.
133	---	I have never indulged in any unusual sex practices.
214	---	I have never had any breaking out on my skin that has worried me.
249	---	I believe there is a Devil and a Hell in after life.
279	---	I drink an unusally large amount of water every day.
281	---	I do not often notice my ears ringing or buzzing.
286	---	I am never happier than when alone.
320	---	Many of my dreams are about sex matters.
424	---	I feel hungry almost all the time.
455	---	I am quite often not in on the gossip and talk of the group I belong to.
458	---	The man who had most to do with me when I was a child (such as my father, stepfather, etc.) was very strict with me.
464	---	I have never seen a vision.
467	---	I often memorize numbers that are not important (such as automoble licenses, etc.).
476	---	I am a special agent of God.
481	---	I can remember "playing sick" to get out of something.
545	---	Sometimes I have the same dream over and over.

appear that the majority of the 566 items were found to be meaningful on the two dimensions by this studies' participants. When compared with items showing sex differences (Table 4.1), no items appear on Table 4.3 that appear on Table 4.1. This gives further indication for the unanimity of agreement on these dimensions and without regard to sex type.

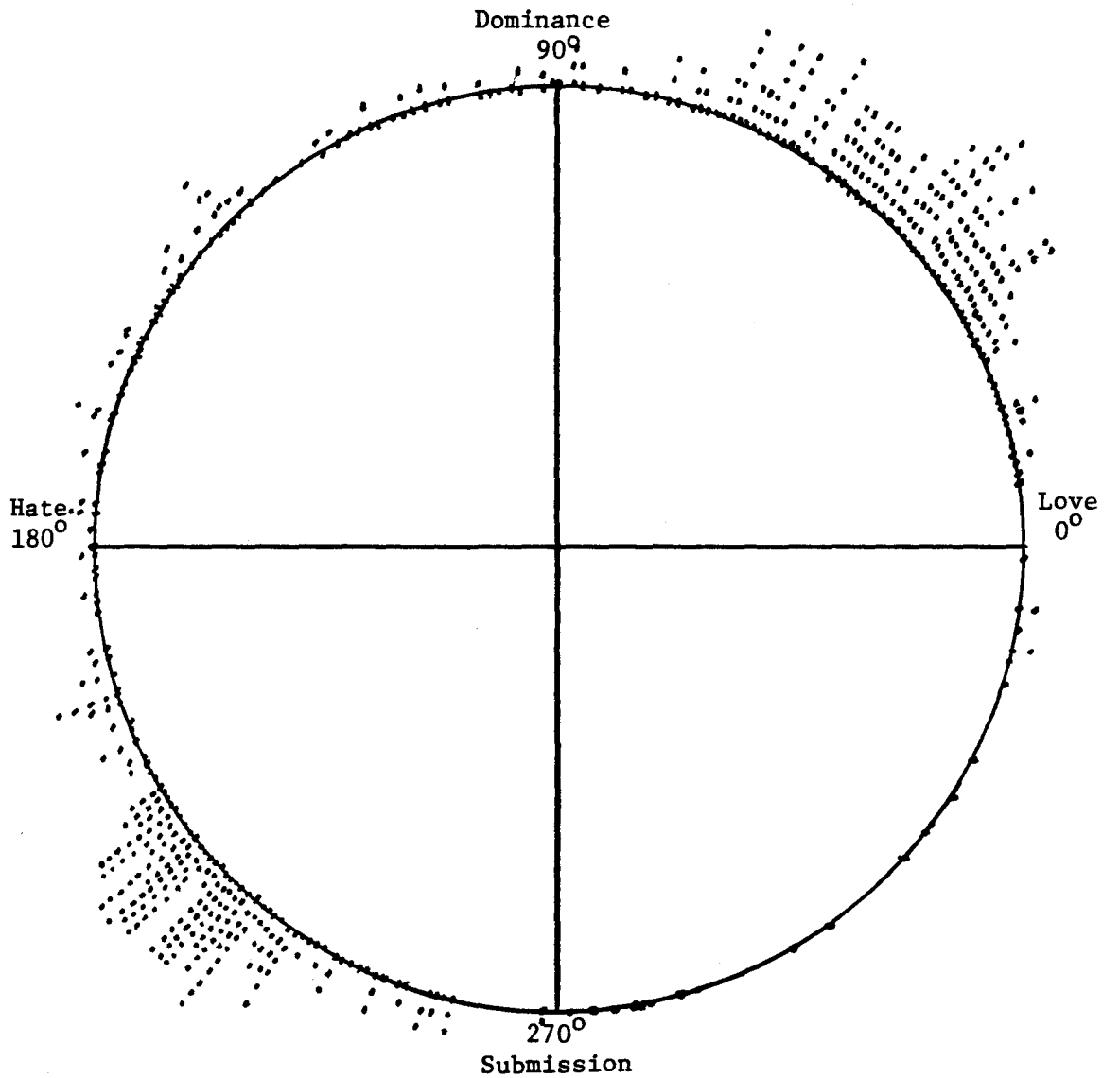
Angular Plots of MMPI Items

A complete table with item number, angle, vector length, sine and cosine for the 566 MMPI items was contained in Appendix C4.1. The information in this table was used to calculate resultant vectors for the MMPI scales and is presented later. This table was presented in item order for use in further research and inspection by others. In contrast, Appendix D4.1 contains the 566 MMPI items in angular order with the scale scoring direction and item-statement. The purpose of presenting the items in this way allows the reader to "get the feel" of the MMPI scaling. As one reads, one observes that items with close angles are similar in meaning and that readers may at their discretion check between Appendix C4.1 and D4.1 those items that interest them.

However, Appendix D4.1 is conceivably too conceptually difficult to deal with, therefore, Figure 4.1 is presented. Figure 4.1 is the circular plot of the 566 MMPI item angles to the nearest whole angle from Appendix D4.1. Briefly, if we divide the circle into quadrants as is commonly done, then interesting patterns emerge. Quadrant I is defined as angles from 0 degrees to 90 degrees; Quadrant II from 91 degrees to 180 degrees; Quadrant III from 181 degrees to 270 degrees

Figure 4.1

Circular Plot of the 566 MMPI Items



and Quadrant IV from 271 degrees to 359 degrees. Defining the y-axis as the Hate-Love dimension and the x-axis as the Submission-Dominance dimension provides additional conceptual benchmarks.

It can be seen that Quadrants I and III contain the majority of the MMPI items. Quadrant I, the Love-Dominance combination is contrasted with Quadrant III the Hate-Submission combination. This should give a suggestion that items in Quadrant I should have conceptual opposites in Quadrant III. Inspection reveals that Quadrant I denotes positive feelings in contrast to the negative feelings of Quadrant III. Items begin then to shift in meaning as they move around the circle. In fact, we find that 40% of the items are located in Quadrant I and another 41% opposite in Quadrant III. We might assume this to be the basis, at the item level, for the large first factor reported for the MMPI. We also find only about 15% of the items in Quadrant II and another 4% in Quadrant IV indicating that the MMPI item pool does not adequately cover the full range of interpersonal traits.

For example, item 264 - "I am entirely self-confident" in Quadrant I at 53 degrees is 178 degrees opposite item 86 - "I am certainly lacking in self-confidence" in Quadrant III at 231 degrees. Chapter V: Discussion will present more examples and further elaboration.

Items which are similar in content show close proximity to each other. Examples include, item 250 (109 degrees) "I don't blame anyone for trying to grab everything he can get in this world," item 271 (134 degrees) "I do not blame a person for taking advantage of someone who lays himself open to it," and item 313 (142 degrees) "The man who

provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one steals it."

MMPI Scales

As noted in the Methods chapter, the items keyed for 19 different scales were supplied with the sines and cosines appropriate to their angular scale values. These were summed to obtain a resultant (mean) vector for the set and a measure of how variable the set was around that mean (vector length). The circular scaling procedure described elsewhere provided the empirical data for construction of the 19 selected scales. Table 4.4 presents the nineteen scales pertinent to the present study. As seen in Table 4.4 each scale is presented in angular order (column 4) with the sum of the sine and cosine of the items which constitue this scale. The vector length, a dispersion factor and number of items in the scale (N).

The nineteen scales were plotted to the nearest whole number and shown on Figure 4.2. Figure 4.2 clearly shows the wide range of angles between these scales. Once again, Quadrants I and III contain the majority of scales. Conceptually it is clear; however, that the scales lie in the quadrant as would be expected. For instance E (Ego Strength) in the Love-Dominance Quadrant (I) but toward the Dominance side. D (Depression) appears in the Hate-Submission Quadrant (III) almost in the middle.

The circular location and keyed scoring direction of each item for each of the 19 selected scales is presented in Table 4.5. In order to make detailed use of the items as scaled, Figures 4.3 to 4.21

Table 4.4

19 Selected Scales in Order by Angle

SCALE	SINE	COSINE	ANGLE	VECTOR LENGTH	VECTOR LN. n	n
HyD(Dn)	0.46	11.92	2.22	11.93	0.46	26
So	20.64	24.28	40.36	31.86	0.82	39
Es	36.34	22.98	57.69	42.99	0.63	68
Ma	9.99	-4.56	114.54	10.99	0.24	46
Pd	-12.58	-26.22	205.63	29.08	0.58	50
F	-32.07	-41.12	217.95	52.15	0.82	64
Sc	-41.71	-52.43	218.49	66.99	0.86	78
Pt	-26.57	-26.26	225.33	37.36	0.78	48
Si	-40.21	-35.87	228.27	53.88	0.77	70
Hs	-24.37	-20.12	230.45	31.60	0.96	33
A	-28.49	-23.02	231.07	36.63	0.94	39
D	-33.68	-25.89	232.44	42.48	0.71	60
Pa	-18.00	-11.49	237.46	21.36	0.53	40
R	-22.52	-12.74	240.50	25.87	0.65	40
Hy	-23.11	-11.47	243.59	25.79	0.43	60
Mf-m	-11.89	8.26	304.76	14.48	0.24	60
L	-4.99	3.79	307.21	6.26	0.42	15
Mf-f	-10.08	9.38	312.93	13.77	0.23	60
K	-5.05	10.73	334.79	11.86	0.39	30

Figure 4.2

Nineteen Selected Scales from Leary (1957)

and Williams and Lawrence (1954)

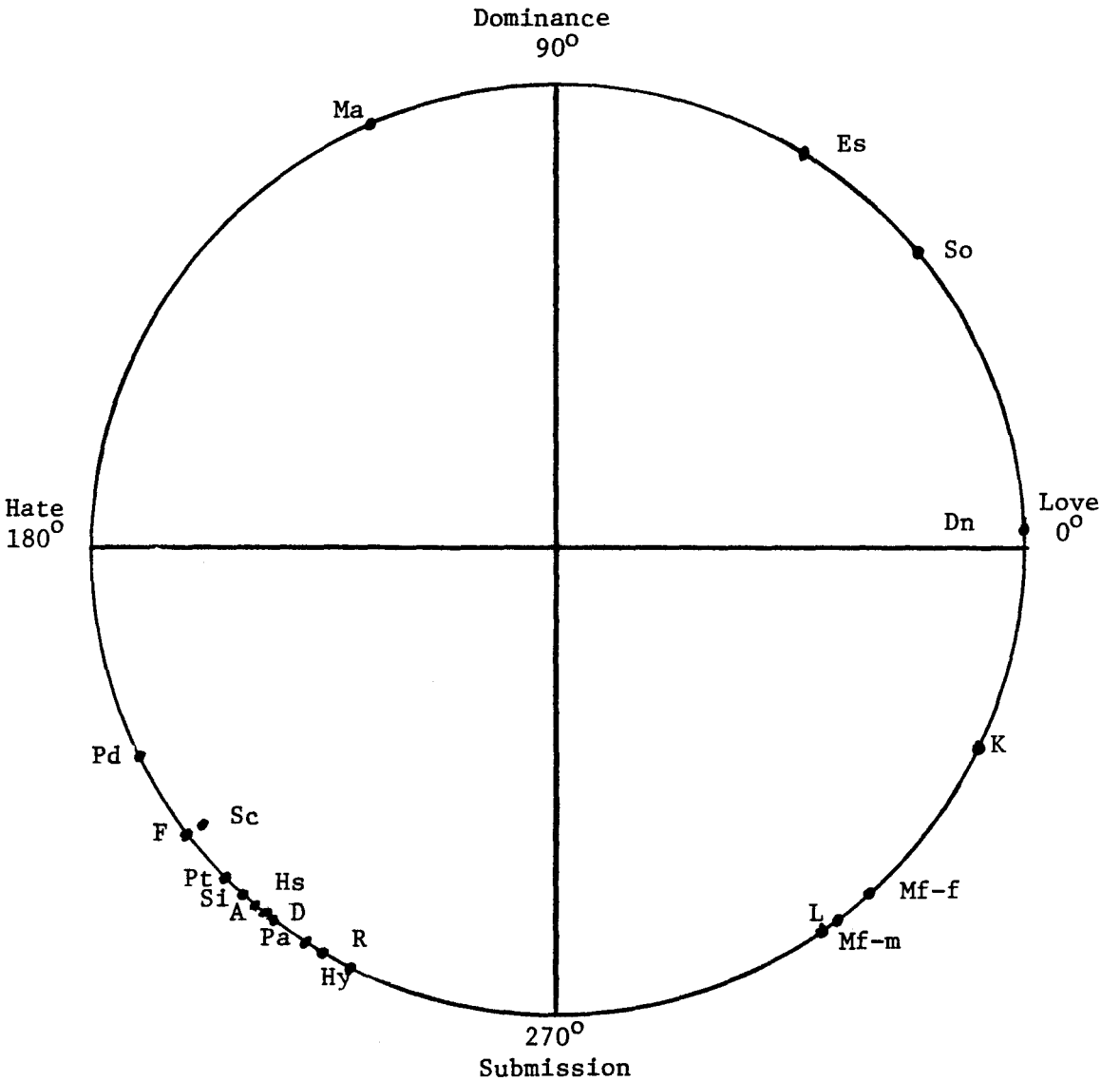


Table 4.5

19 Empircial Scales, Scoring Direction in Angular Order

Dn			So			Es			Ma			Pd			F		
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR DIR.	ANGLE
253	+	31.5	107	+	33.4	261	-	11.3	143	+	15.0	96	-	11.2	115	-	23.2
12	-	41.4	54	+	36.5	488	-	16.4	232	+	27.4	137	-	32.0	206	+	24.3
6	-	68.8	7	+	37.8	554	-	17.2	268	+	31.5	173	-	33.2	276	-	24.7
170	-	69.8	528	+	40.9	132	-	17.5	266	+	41.9	107	-	33.4	65	-	26.2
89	-	106.9	257	+	52.1	95	+	17.5	101	-	47.9	296	-	33.5	220	-	26.5
234	-	113.8	163	+	58.1	483	-	27.1	119	-	48.7	294	-	34.6	177	-	28.6
30	-	119.3	371	+	59.2	140	-	29.0	228	+	51.1	8	-	39.8	17	-	30.4
93	-	131.9	169	+	59.5	253	+	31.5	73	+	51.8	20	-	41.7	258	-	30.8
289	-	132.2	18	+	81.4	430	+	32.4	134	+	59.7	248	-	42.8	196	-	36.4
109	-	134.9	424	-	120.7	561	-	32.9	181	+	62.3	231	-	49.2	54	-	36.5
71	-	136.5	269	-	121.1	515	+	33.5	222	+	64.9	287	-	58.0	185	-	37.6
124	-	150.8	148	-	135.0	221	+	35.9	240	+	71.2	37	-	54.5	164	-	39.3
265	-	155.8	218	-	163.0	153	+	40.7	277	+	87.5	134	-	59.7	20	-	41.7
162	-	156.5	439	-	183.1	2	+	42.2	233	+	90.9	102	+	64.1	113	-	43.7
129	-	192.5	383	-	186.5	208	+	42.3	64	+	104.1	155	-	64.5	272	-	46.0
136	-	205.4	42	-	193.5	513	+	44.9	250	+	109.4	235	-	65.9	199	-	47.3
279	-	225.4	247	-	198.9	51	+	48.4	289	-	132.2	170	-	69.8	257	-	52.1
292	-	230.5	245	-	199.2	231	+	49.2	271	+	134.7	183	-	130.4	112	-	52.6
147	-	233.2	252	-	207.9	187	+	51.6	109	+	134.9	289	-	132.2	83	-	52.8
267	-	237.5	43	-	213.1	192	+	51.7	148	-	135.0	118	+	146.9	169	-	59.5
172	-	239.5	337	-	214.2	36	+	54.2	298	+	142.0	127	+	153.1	75	-	97.7

Table 4.5 (continued)

Dn(Con't)			So(Con't)			Es(Con't)			Ma(Con't)			Pd(Con't)			F(Con't)		
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
213	-	242.5	263	-	215.5	181	+	62.3	97	+	148.1	21	+	162.6	146	+	99.8
180	-	243.7	301	-	221.6	410	+	73.3	167	+	152.7	224	+	162.8	269	+	121.0
201	-	257.5	138	-	225.1	380	+	73.3	127	+	153.1	244	+	171.1	49	+	149.6
26	-	271.6	431	-	225.6	270	+	74.9	226	+	154.4	38	+	177.7	218	+	163.0
141	-	275.2	156	-	227.3	174	+	75.7	21	+	162.6	42	+	193.5	56	+	167.8
			535	-	227.9	367	+	81.8	13	+	167.6	245	+	199.2	139	+	180.4
			186	-	228.1	234	+	113.8	105	-	175.1	216	+	207.9	42	+	193.5
			32	-	228.1	109	+	134.9	238	+	183.7	215	+	211.7	247	+	198.9
			335	-	229.1	378	-	135.7	59	+	197.7	33	+	212.2	245	+	199.2
			352	-	233.0	458	+	146.4	120	-	202.2	16	+	212.6	205	+	199.7
			171	-	235.1	355	+	157.6	157	+	210.6	94	+	214.5	85	+	202.9
			549	-	235.2	244	-	171.1	263	+	215.5	110	+	214.6	197	+	206.5
			267	-	237.5	341	-	199.2	194	+	220.5	239	+	215.2	252	+	207.9
			241	-	238.8	421	+	199.9	212	+	220.6	61	+	216.4	151	+	209.5
			158	-	247.5	33	-	212.2	166	-	224.1	106	+	217.8	200	+	209.8
			321	-	251.1	43	-	213.1	279	+	225.4	35	+	219.5	215	+	211.7
			40	-	289.1	14	-	214.2	251	+	225.8	24	+	220.5	14	+	214.2
			286	-	322.5	209	-	214.5	156	+	227.3	284	+	224.1	209	+	214.5
						94	-	214.5	171	-	235.1	32	+	228.1	31	+	215.4
						548	-	215.9	267	-	237.5	84	+	229.9	202	+	216.7
						510	-	216.0	22	+	238.4	171	-	235.1	121	+	217.0

Table 4.5 (continued)

Es(Con't)			Ma(Con't)			Pd(Con't)			F(Con't)			Sc			Pt		
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
349	-	217.5	180	-	243.7	267	-	237.5	23	+	217.8	306	-	19.1	178	-	33.8
236	-	217.6	100	+	269.2	82	-	242.6	210	+	217.8	276	-	24.7	152	-	37.1
48	-	218.2	111	-	282.8	180	-	243.7	48	+	218.2	65	-	26.2	164	-	39.3
62	-	220.0	11	+	347.2	67	+	247.1	35	+	219.5	220	-	26.5	3	-	39.4
34	-	220.9				91	-	255.1	246	+	219.8	177	-	28.6	8	-	39.8
189	-	221.6				201	-	257.5	168	+	219.8	17	-	30.4	266	+	41.9
217	-	221.9				141	-	275.2	184	+	220.6	178	-	33.8	122	-	45.5
251	-	225.8				237	-	306.2	34	+	220.9	320	+	35.1	36	-	54.2
384	-	226.0							211	+	221.9	196	-	36.4	353	-	55.3
544	-	226.3							27	+	221.9	8	-	39.8	340	+	63.4
559	-	226.9							123	+	222.4	309	-	40.9	102	+	64.1
359	-	227.5							156	+	227.3	20	-	41.7	336	+	155.3
494	-	227.6							275	+	228.9	266	+	41.9	329	-	181.4
555	-	227.9							293	+	229.1	119	-	48.7	238	+	183.7
32	-	228.1							291	+	231.1	103	-	49.0	342	+	204.8
525	-	229.3							256	+	235.3	187	-	51.6	358	+	213.2
389	-	229.7							227	+	235.6	192	-	51.7	15	+	213.4
344	-	230.7							50	+	235.6	330	-	55.0	337	+	214.2
541	-	237.5							66	+	281.6	37	-	58.5	94	+	214.5
22	-	238.4							40	+	289.1	281	-	105.4	349	+	217.5
241	-	238.8							286	+	322.5	97	+	148.1	106	+	217.8

Table 4.5 (continued)

Es(Con't)			F(Con't)			Sc(Con't)			Pt(Con't)			Si			Hs		
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
82	-	242.6	53	+	323.7	355	+	157.6	182	+	219.9	143	-	15.0	7	-	37.8
100	-	269.2				282	+	157.7	189	+	221.6	451	-	30.9	3	-	39.4
420	-	278.1				21	+	162.6	301	+	221.6	296	-	33.5	274	-	40.6
489	-	343.1				38	+	177.7	217	+	221.9	440	-	34.5	153	-	40.7
58	-	353.4				238	+	183.7	346	+	225.2	391	-	34.9	2	-	42.2
						307	+	191.5	76	+	225.8	229	-	36.7	9	-	43.8
						324	+	195.7	159	+	226.2	25	-	36.8	190	-	45.9
						312	+	199.0	356	+	226.9	449	-	37.0	188	-	46.9
						341	+	199.2	351	+	226.9	450	-	38.2	51	-	48.4
						322	-	207.1	305	+	227.2	547	-	39.1	103	-	49.0
						157	+	210.6	359	+	227.5	309	-	40.9	243	-	49.2
						33	+	212.2	360	+	227.9	208	-	42.3	192	-	51.7
						16	+	212.6	32	+	228.1	400	-	42.7	230	-	54.6
						364	+	212.9	344	+	230.7	446	-	43.6	163	-	58.1
						15	+	213.4	142	+	230.8	126	-	43.7	55	-	61.6
						303	+	214.5	86	+	231.1	57	-	44.3	68	-	63.7
						202	+	216.7	10	+	231.6	99	-	46.1	155	-	64.5
						339	+	216.9	352	+	233.0	119	-	48.7	63	-	67.6
						121	+	217.0	41	+	234.2	231	-	49.2	175	-	69.1
						349	+	217.5	357	+	235.1	415	-	49.9	18	-	81.4
						47	+	217.7	343	+	235.8	479	-	50.9	130	-	95.2

Table 4.5 (continued)

Sc(Con't)			Pt(Con't)			Si(Con't)			Hs(Con't)			A			D		
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
210	+	217.8	361	+	235.9	262	-	53.9	281	-	105.4	379	-	53.5	95	-	17.5
52	+	218.2	304	+	235.9	193	-	54.0	43	+	213.1	383	+	186.5	98	-	24.1
35	+	219.5	22	+	238.4	521	-	55.1	125	+	214.3	411	+	212.4	285	-	31.1
273	+	219.7	67	+	247.1	353	-	55.3	108	+	215.9	337	+	214.2	107	-	33.4
168	+	219.8	321	+	251.1	482	-	55.3	29	+	216.9	94	+	214.5	296	-	33.5
334	+	219.8	317	+	349.8	371	-	59.2	23	+	217.8	236	+	217.5	178	-	33.8
182	+	219.9				462	-	60.9	72	+	218.5	396	+	219.8	152	-	37.1
24	+	220.5				505	-	65.7	114	+	218.9	301	+	221.6	207	-	38.2
194	+	220.5				254	-	71.6	273	+	219.7	418	+	222.5	88	-	38.6
212	+	220.6				281	-	105.4	62	+	220.0	414	+	224.9	8	-	39.8
325	+	220.7				436	+	107.6	189	+	221.6	138	+	225.1	153	-	40.7
301	+	221.6				316	+	133.7	161	+	224.7	431	+	225.6	160	-	41.2
350	+	222.6				469	-	136.4				76	+	225.8	2	-	42.2
104	+	224.2				124	+	150.8				278	+	225.9	208	-	42.3
179	+	225.3				336	+	155.3				384	+	226.0	248	-	42.8
297	+	225.7				117	+	180.6				544	+	226.3	9	-	43.8
251	+	225.8				383	+	186.5				356	+	226.9	57	-	44.3
76	+	225.8				342	+	204.8				305	+	227.2	122	-	45.5
159	+	226.2				33	-	212.2				359	+	227.5	272	-	46.1
356	+	226.9				411	+	212.4				374	+	227.9	51	-	48.4
305	+	227.2				481	-	214.9				555	+	227.9	46	-	49.8

Table 4.5 (continued)

Sc(Con't)			Si(Con't)			A(Con't)			D(Con't)			Pa			R		
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
156	+	227.3	236	+	217.5	32	+	228.1	193	+	54.0	268	-	31.5	556	-	27.8
332	+	227.8	138	+	225.1	389	+	229.7	36	-	54.2	107	-	33.4	140	-	29.0
360	+	227.9	278	+	225.9	397	+	230.7	242	-	57.2	294	-	34.6	81	-	30.1
32	+	228.1	473	+	227.2	344	+	230.7	154	-	58.1	347	-	42.8	550	-	30.8
335	+	229.1	359	-	227.5	518	+	230.7	131	-	63.6	299	+	51.5	451	-	30.9
354	+	231.0	332	+	227.8	147	+	233.2	155	-	64.5	281	-	105.4	429	-	33.9
291	+	231.1	32	+	228.1	345	+	233.6	270	-	74.9	93	-	131.9	440	-	34.5
352	+	233.0	427	+	230.4	41	+	234.2	18	-	81.4	316	-	133.7	221	-	35.9
345	+	233.6	292	+	230.5	343	+	235.8	233	-	90.9	109	-	134.9	445	-	36.2
41	+	234.2	147	+	233.3	267	+	237.6	130	+	95.2	313	-	142.1	449	-	37.0
363	+	234.4	487	+	233.3	259	+	239.9	64	-	104.2	124	-	150.8	450	-	38.2
22	+	238.4	357	+	235.1	443	+	246.0	89	-	106.9	127	+	153.1	12	-	41.4
241	+	238.8	171	+	235.1	67	+	247.1	30	-	119.2	348	-	176.0	529	-	41.6
259	+	239.9	549	+	235.2	499	+	250.1	271	-	134.7	319	-	176.4	208	-	42.3
40	+	289.1	304	+	235.9	321	+	251.1	145	-	139.4	117	-	180.6	219	-	43.1
			267	+	237.6	511	+	254.1	80	-	139.5	341	+	199.2	1	-	43.3
			172	+	239.5	382	+	254.5	39	-	145.3	338	+	205.2	126	-	43.7
			82	+	242.6	465	+	348.5	13	+	167.6	151	+	209.5	9	-	43.8
			180	+	243.7				43	+	213.1	157	+	210.6	272	-	46.1
			377	+	247.1				263	-	215.5	16	+	212.6	51	-	48.4
			67	+	247.1				5	+	216.1	364	+	212.9	415	-	49.9

Table 4.5 (continued)

Si(Con't)			D(Con't)			Pa(Con't)			R(Con't)			Hy			Mf-m		
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
321	+	251.1	236	+	217.6	15	+	213.4	112	-	52.6	253	+	31.5	261	+	11.3
455	+	251.6	23	+	217.8	327	-	213.9	502	-	58.0	137	-	32.0	87	+	14.2
91	-	255.1	52	+	218.2	110	+	214.6	154	-	58.1	107	-	33.4	295	+	14.7
564	+	256.5	182	+	219.9	202	+	216.7	462	-	60.9	7	-	37.8	132	+	17.5
201	+	257.5	191	-	220.9	121	+	217.0	131	-	63.6	3	-	39.4	77	+	20.7
398	+	280.2	189	+	221.6	365	+	219.3	472	-	64.1	8	-	39.8	115	-	23.2
111	+	282.8	104	+	224.2	35	+	219.5	6	-	68.8	274	-	40.6	78	+	24.3
			138	+	225.1	24	+	220.5	447	-	87.7	153	-	40.7	74	+	27.6
			159	+	226.2	27	+	221.9	406	-	100.3	160	-	41.2	203	+	28.8
			32	+	228.1	123	+	222.4	281	-	105.4	12	-	41.4	140	+	29.0
			142	+	230.8	284	+	224.1	516	-	117.4	2	-	42.2	69	+	29.5
			86	+	231.1	305	+	227.2	271	-	134.7	9	-	43.8	81	-	30.1
			41	+	234.2	275	+	228.9	145	-	139.4	190	-	45.9	92	+	31.2
			241	-	238.8	293	+	229.1	39	-	145.3	188	-	46.9	221	-	35.9
			259	+	239.9	291	+	231.1	282	-	157.7	51	-	48.4	204	+	36.2
			67	+	247.1	22	+	238.4	327	-	213.9	103	-	49.0	229	-	36.7
			158	+	247.5	158	+	247.5	191	-	220.9	243	-	49.2	25	+	36.8
			58	-	353.4	111	-	282.8	156	-	227.3	192	-	51.7	283	-	40.8
						317	+	349.8	468	-	229.1	230	-	54.6	219	-	43.1
												163	-	58.1	1	-	43.3
												55	-	61.6	126	+	43.7

Table 4.5 (continued)

Hy(Con't)			Mf-m(Con't)			L			Mf-f			K					
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
128	-	68.4	99	-	46.1	285	-	31.1	261	+	11.3	96	+	11.2			
6	-	68.8	133	-	47.0	165	-	35.5	87	+	14.2	296	-	33.5			
175	-	69.1	231	+	49.2	150	-	65.2	295	+	14.7	160	-	41.2			
170	-	69.8	299	+	51.5	60	-	81.7	132	+	17.5	272	-	46.0			
174	-	75.7	187	+	51.6	75	-	97.7	77	+	20.7	502	-	58.0			
89	-	106.9	112	-	52.6	195	-	111.0	115	-	23.2	134	-	59.7			
234	-	113.8	264	-	53.2	135	-	113.1	78	+	24.3	170	-	69.8			
30	-	119.2	262	-	53.9	225	-	113.7	74	+	27.6	461	-	87.8			
93	-	131.9	223	-	58.5	30	-	119.2	203	+	28.8	406	-	100.3			
289	-	132.2	134	+	59.7	105	-	175.1	140	+	29.0	89	-	106.9			
109	-	134.9	116	-	61.1	45	-	175.2	69	-	29.5	234	-	113.8			
71	-	136.5	79	-	64.0	120	-	202.2	81	-	30.1	30	-	119.2			
124	-	150.8	254	-	71.6	15	-	213.4	92	+	31.2	183	-	130.4			
265	-	155.8	198	-	72.1	255	-	241.8	221	-	35.9	316	-	133.7			
162	-	156.5	214	-	84.5	90	-	268.9	204	+	36.2	148	-	135.0			
238	+	183.7	144	-	86.7				229	-	36.7	71	-	136.5			
129	-	192.5	176	-	87.2				25	+	36.8	39	-	145.3			
136	-	205.4	19	-	91.7				283	-	40.8	124	-	150.8			
43	+	213.1	89	-	106.9				219	-	43.1	383	-	186.5			
44	+	215.0	280	-	133.9				1	-	43.3	129	-	192.5			
47	+	217.7	80	-	139.5				126	+	43.7	322	-	207.1			

Table 4.5 (continued)

Hy(Con't)			Mf-m(Con't)			Mf-f(Con't)			K(Con't)								
ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
23	+	217.8	28	-	140.9	99	-	46.1	217	-	221.9						
114	+	218.9	300	-	149.4	133	+	47.0	138	-	225.1						
189	+	221.6	226	+	154.4	231	-	49.2	374	-	227.9						
179	+	225.3	282	+	157.7	299	+	51.5	397	-	230.7						
279	-	225.4	249	-	163.6	187	+	51.6	142	-	230.8						
76	+	225.8	117	-	180.6	112	-	52.6	171	-	235.1						
186	+	228.1	120	-	202.2	264	-	53.2	267	-	237.5						
32	+	228.1	239	+	215.2	262	-	53.9	180	-	243.7						
292	-	230.5	217	+	221.9	223	-	58.5	398	-	280.2						
10	+	231.6	179	+	225.3	134	+	59.7									
147	-	233.2	297	+	225.7	116	-	61.6									
267	-	237.5	278	+	225.9	79	-	64.0									
172	-	239.5	260	-	228.6	254	-	71.6									
213	-	242.5	213	-	242.5	198	-	72.1									
180	-	243.7	26	-	271.6	214	-	84.5									
201	-	257.5	70	+	319.1	144	-	86.7									
26	-	271.6	149	+	328.1	176	-	87.2									
141	-	275.2	4	+	348.3	19	-	91.7									
						89	-	106.9									
						280	-	133.9									
						80	-	139.5									

Table 4.5 (continued)

Mf-f(Con't)

ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE	ITEM	SCR. DIR.	ANGLE
28	-	140.9															
300	-	149.4															
226	+	154.4															
282	+	157.7															
249	-	163.3															
117	-	180.6															
120	-	202.2															
239	+	215.2															
217	+	221.9															
179	-	225.3															
297	-	225.7															
278	+	225.9															
260	-	228.6															
213	-	242.5															
26	-	271.6															
70	+	319.1															
149	+	328.1															
4	+	348.3															

Figure 4.3

Denial of Hysteria Scale (Dn/HyD)

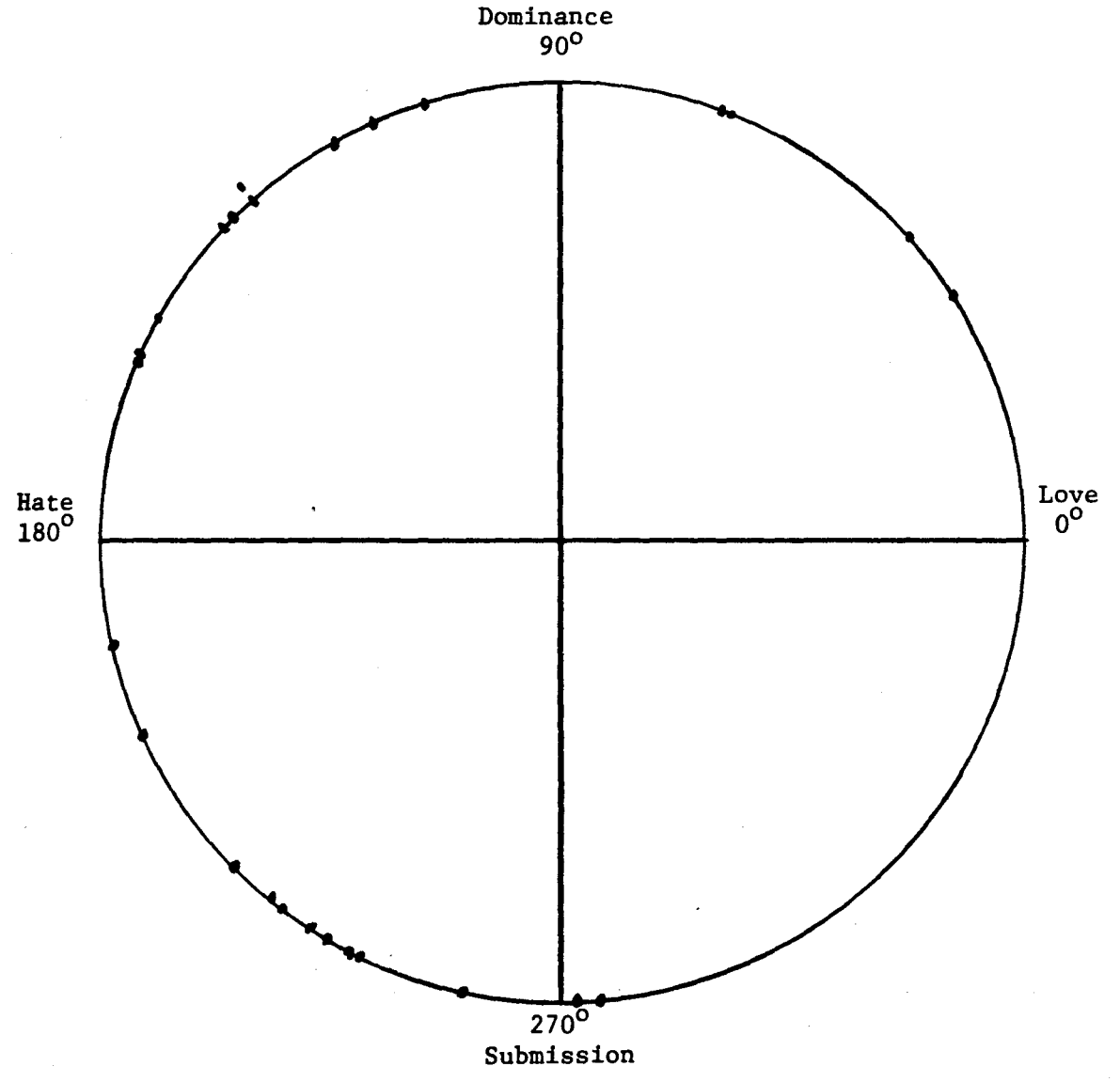


Figure 4.4

Social Desirability Scale - revised (So)

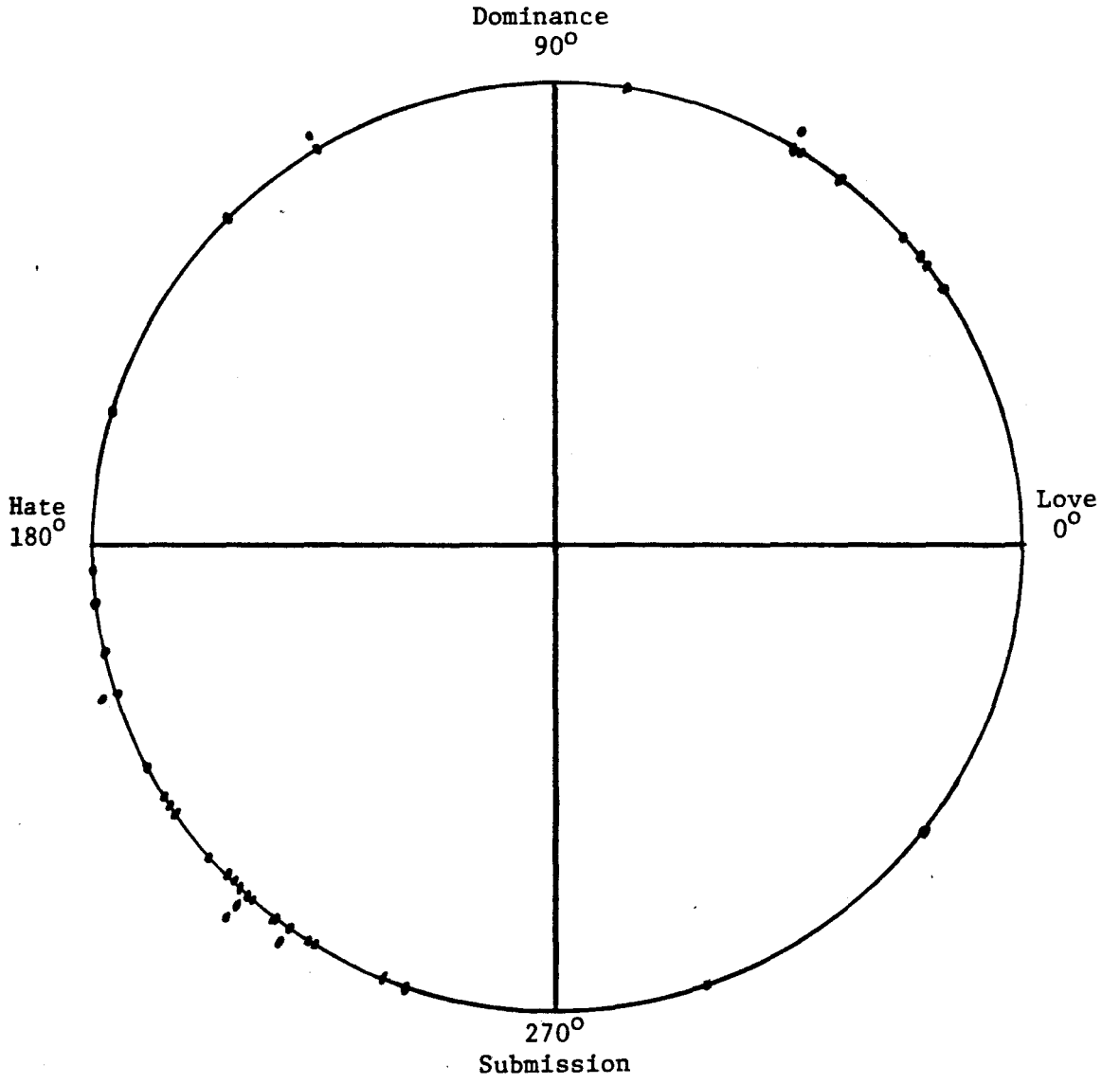


Figure 4.5

Ego Strength Scale (Es)

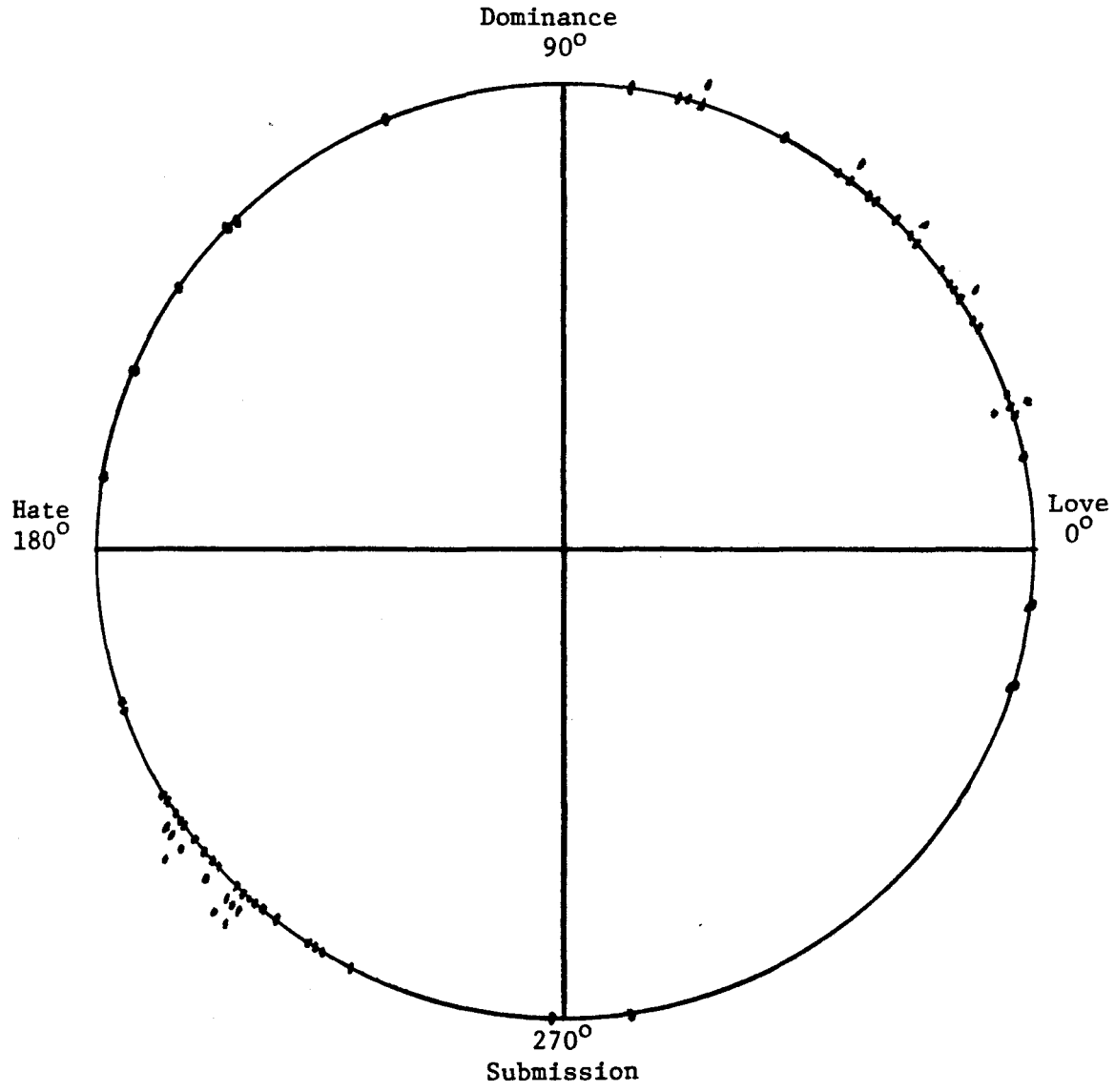


Figure 4.6

Hypomania Scale (Ma)

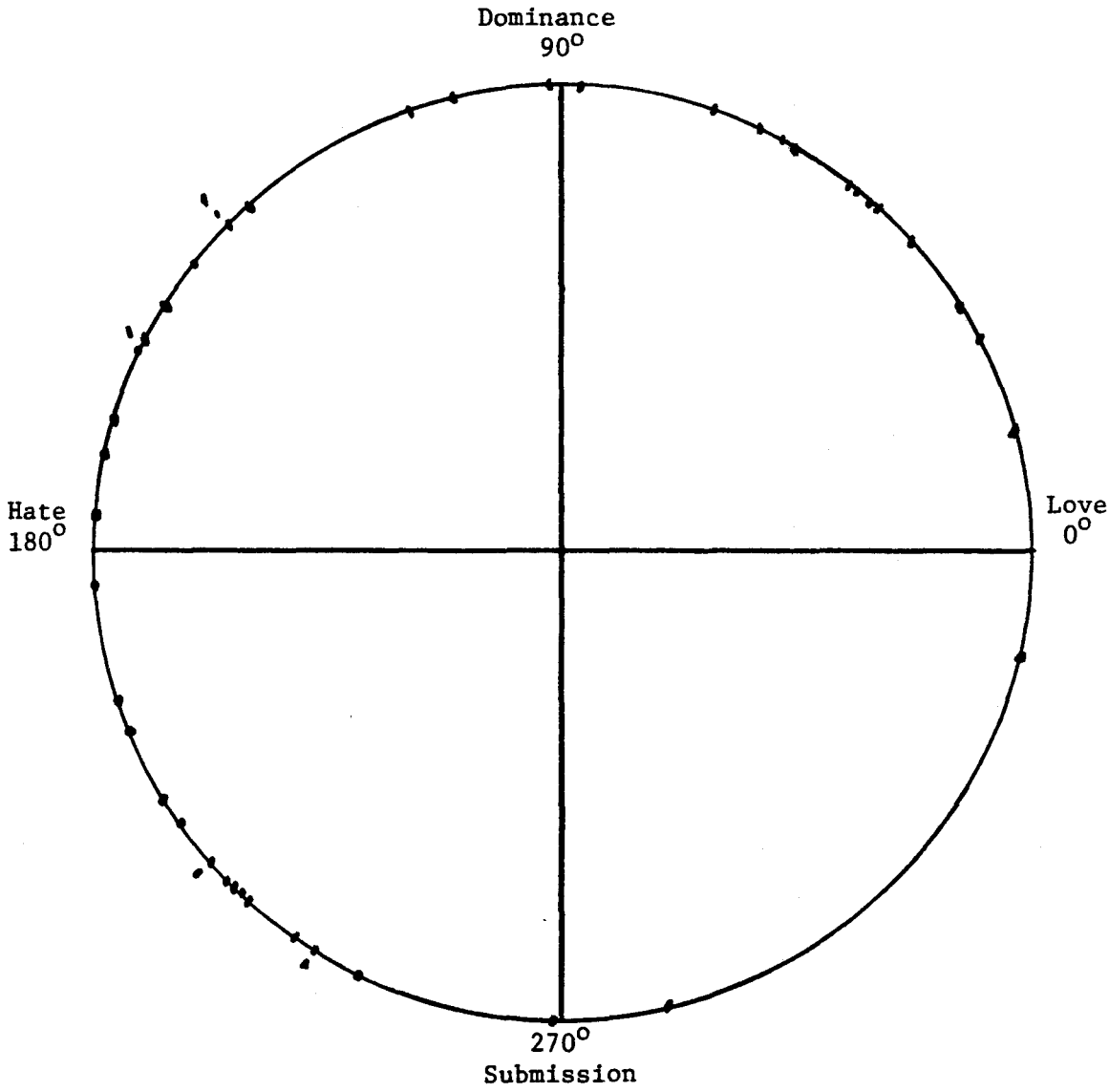


Figure 4.7

Psychopathic Deviate Scale (Pd)

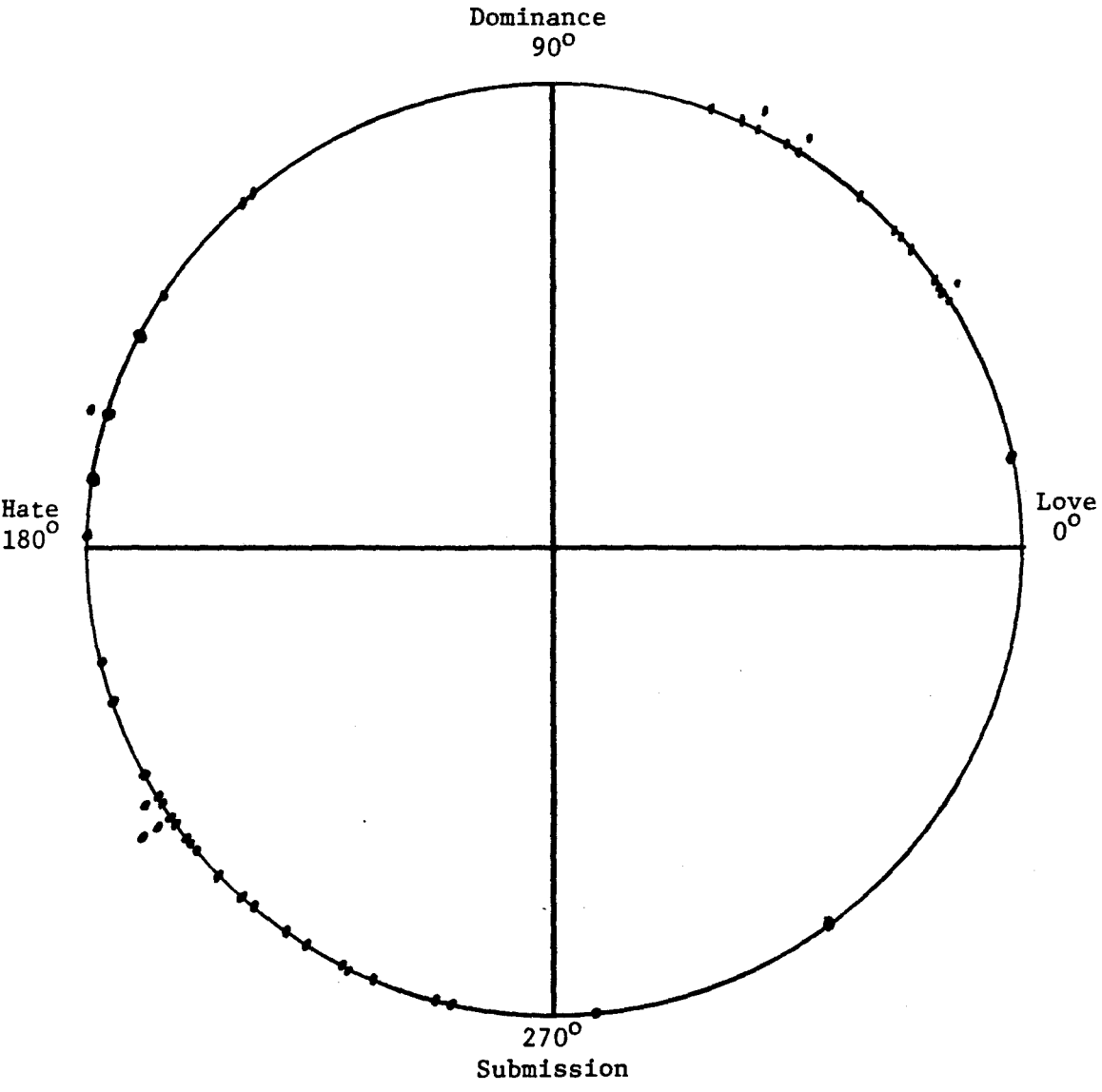


Figure 4.8

Infrequency Scale (F)

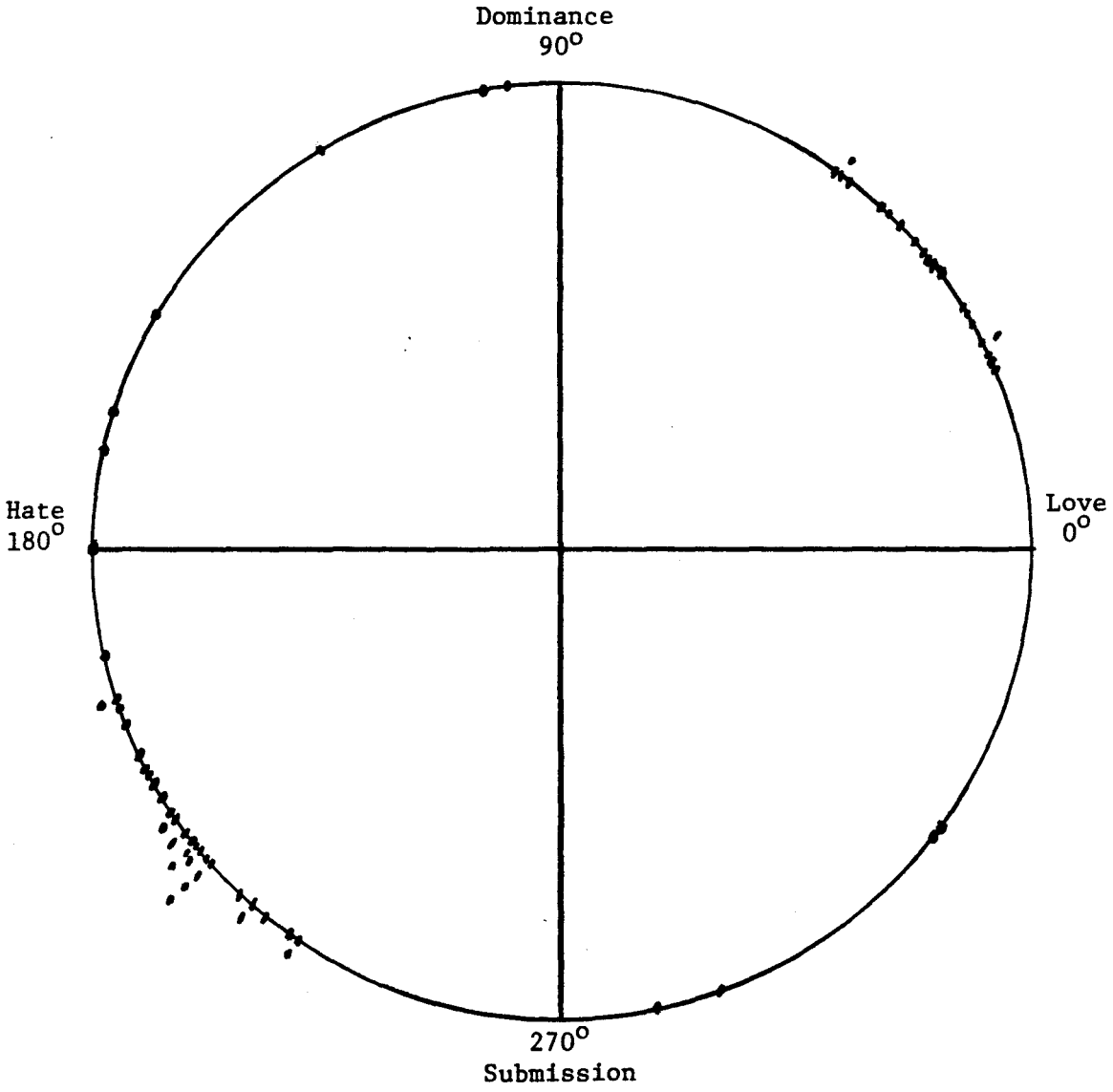


Figure 4.9

Schizophrenia Scale (Sc)

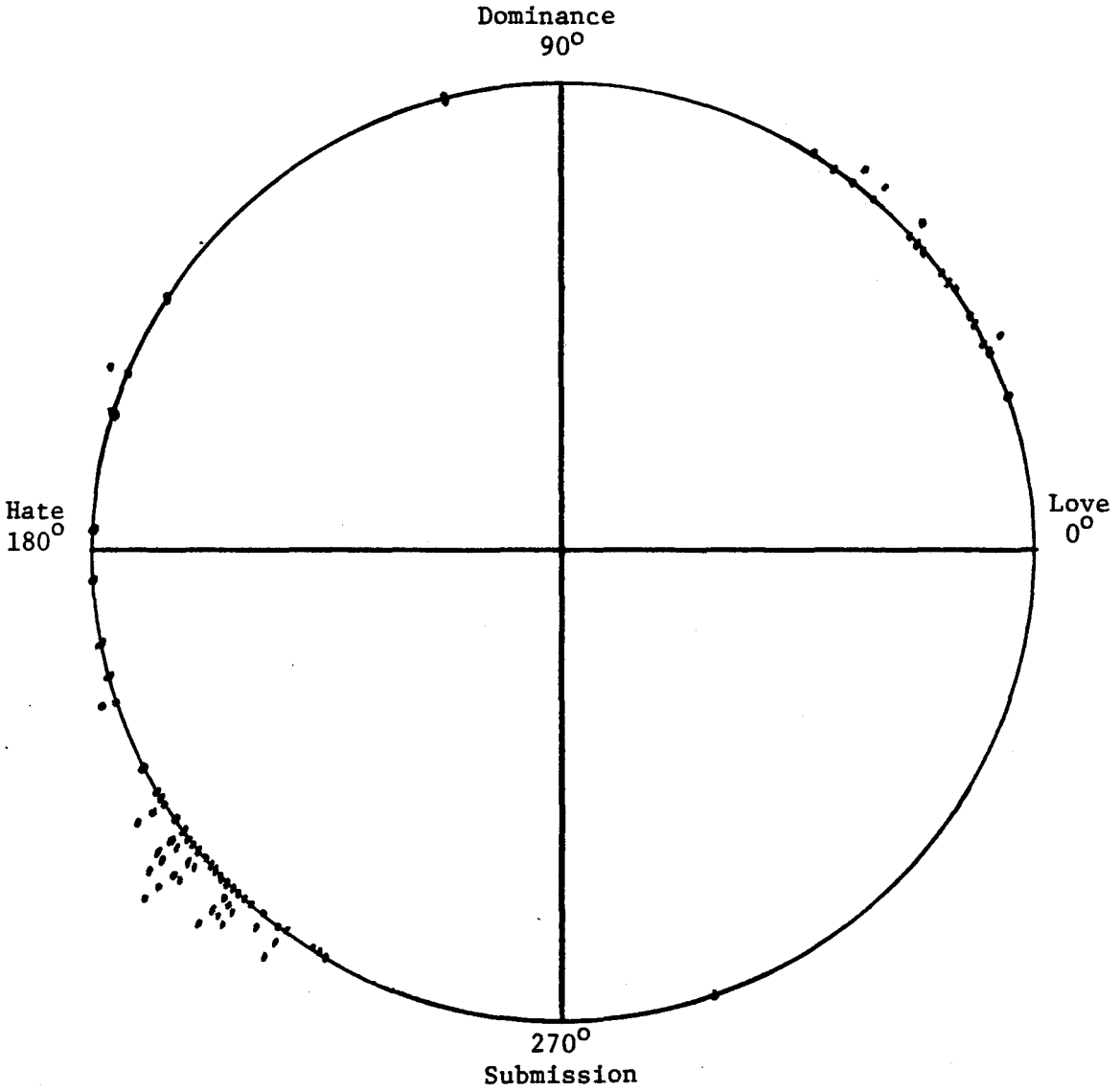


Figure 4.10

Psychasthenia Scale (Pt)

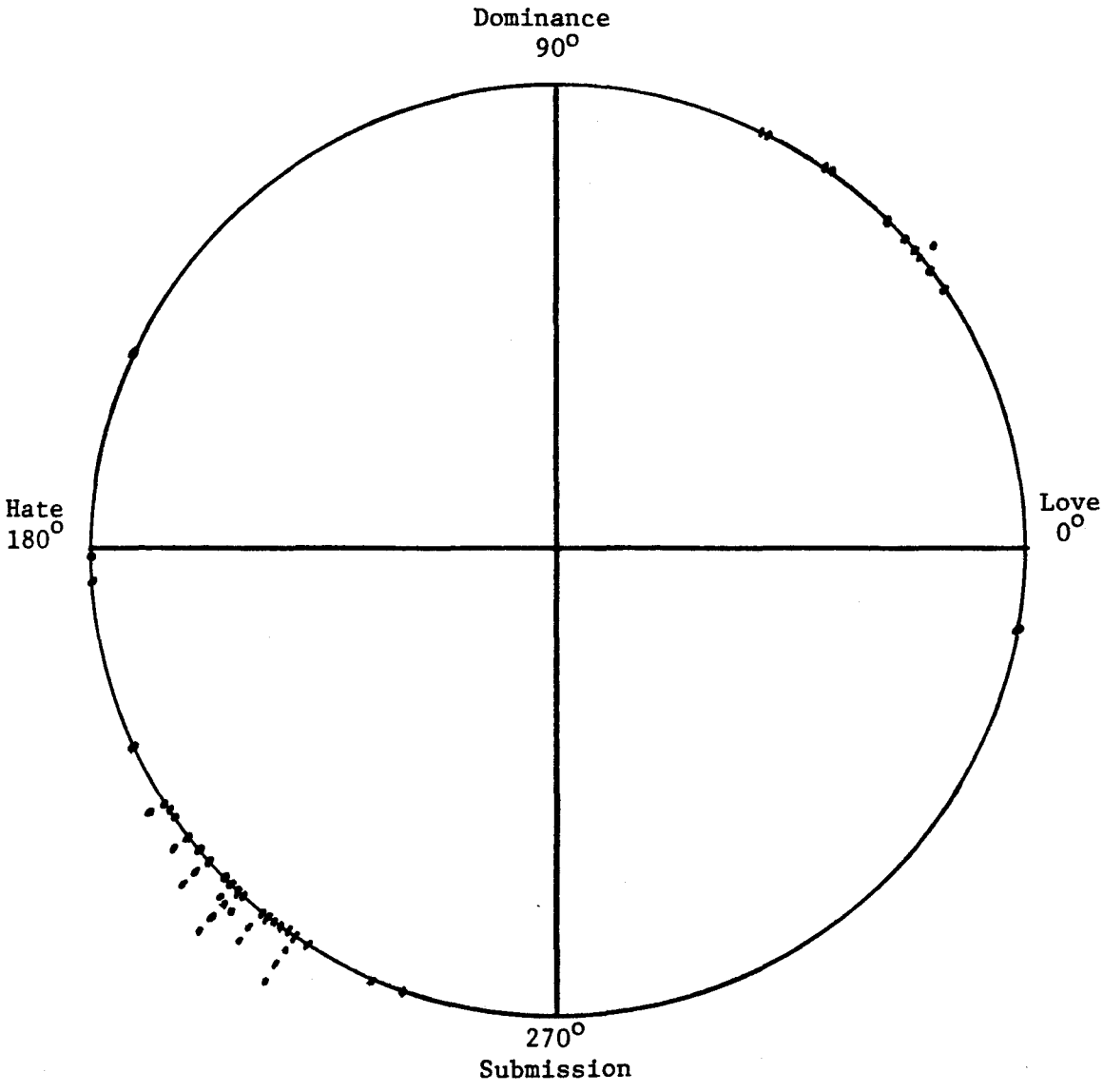


Figure 4.11

Social Introversion Scale (Si)

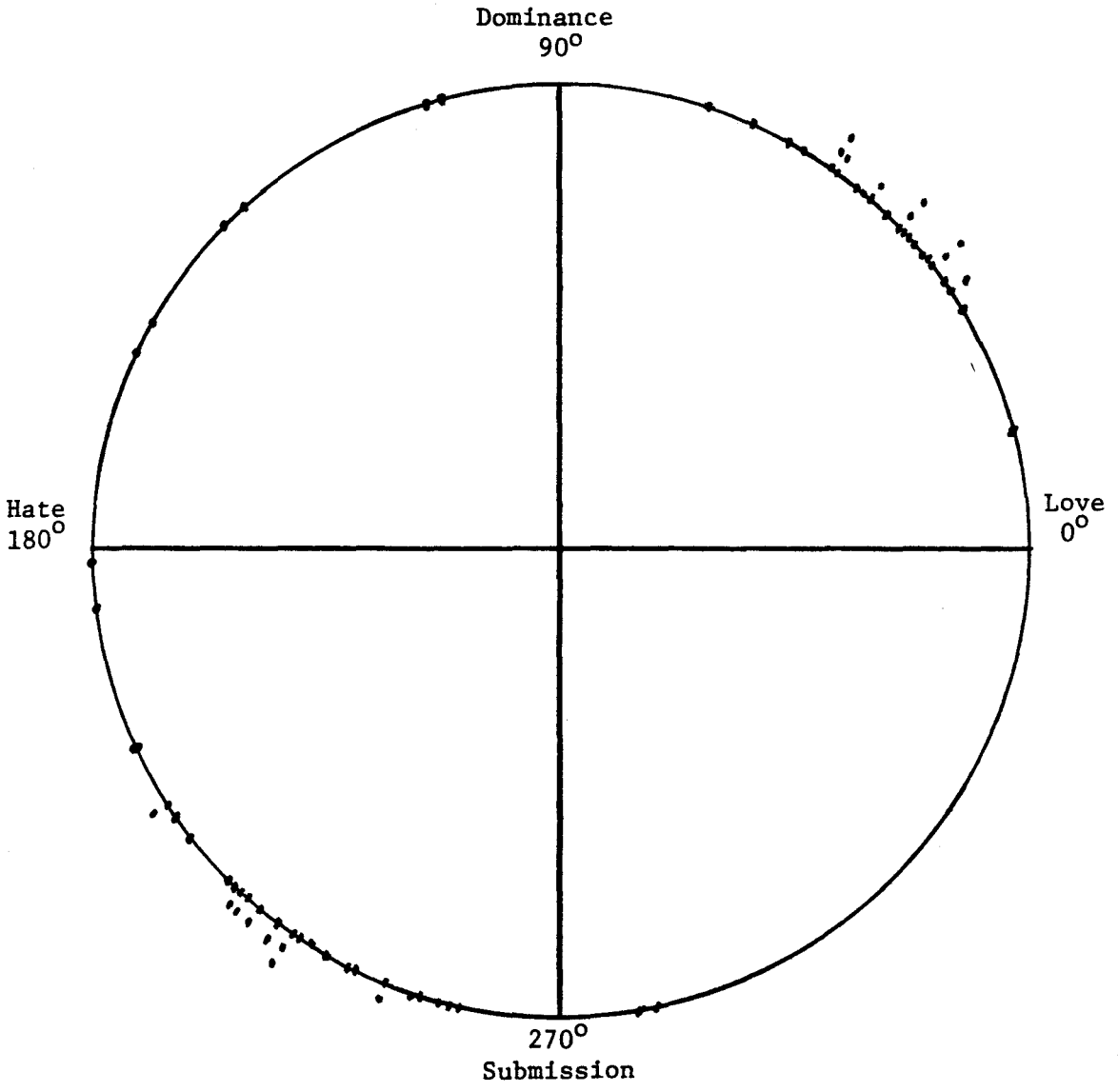


Figure 4.12

Hypochondriasis Scale (Hs)

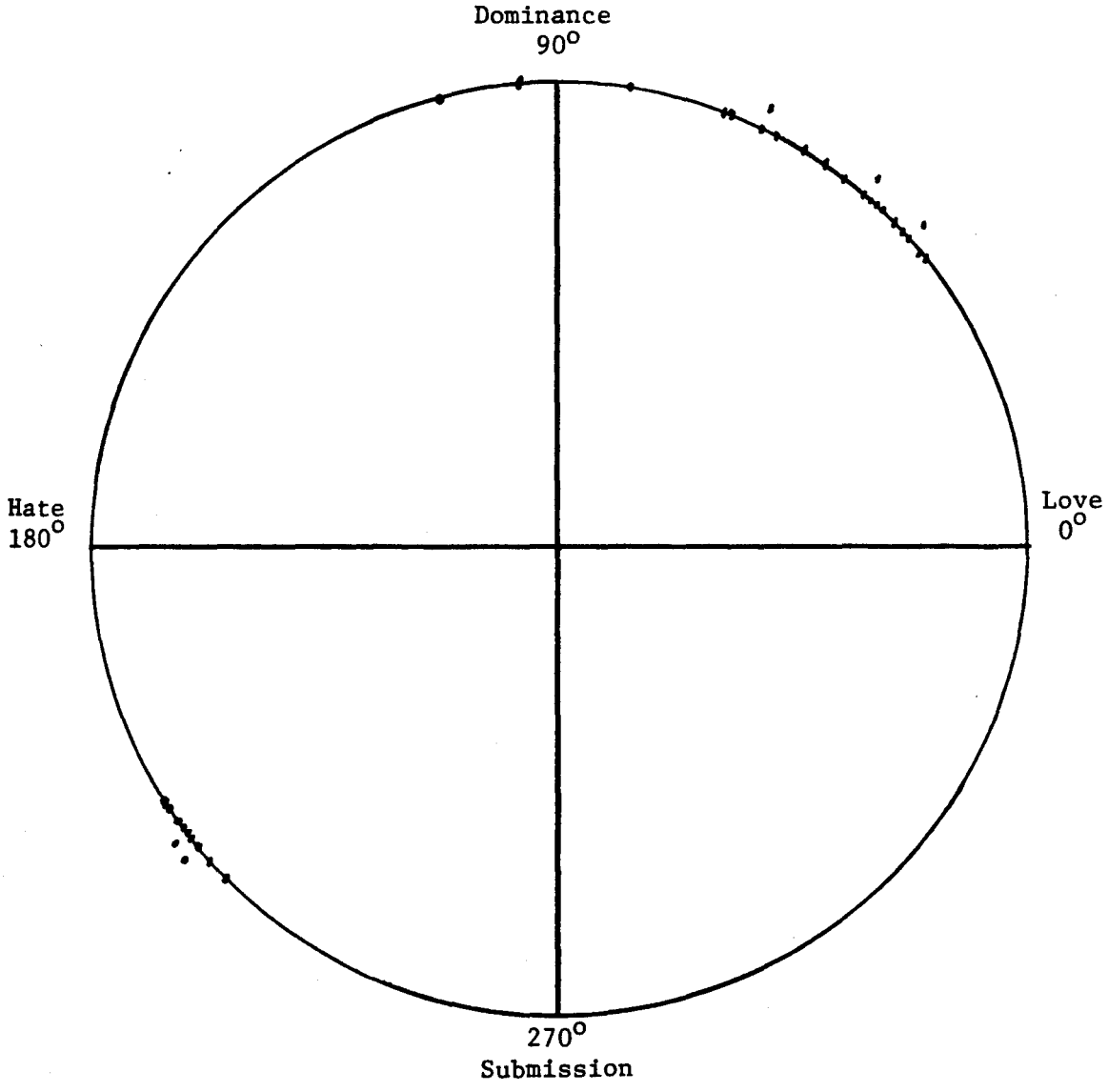


Figure 4.13

Anxiety Scale (A) - Welsh

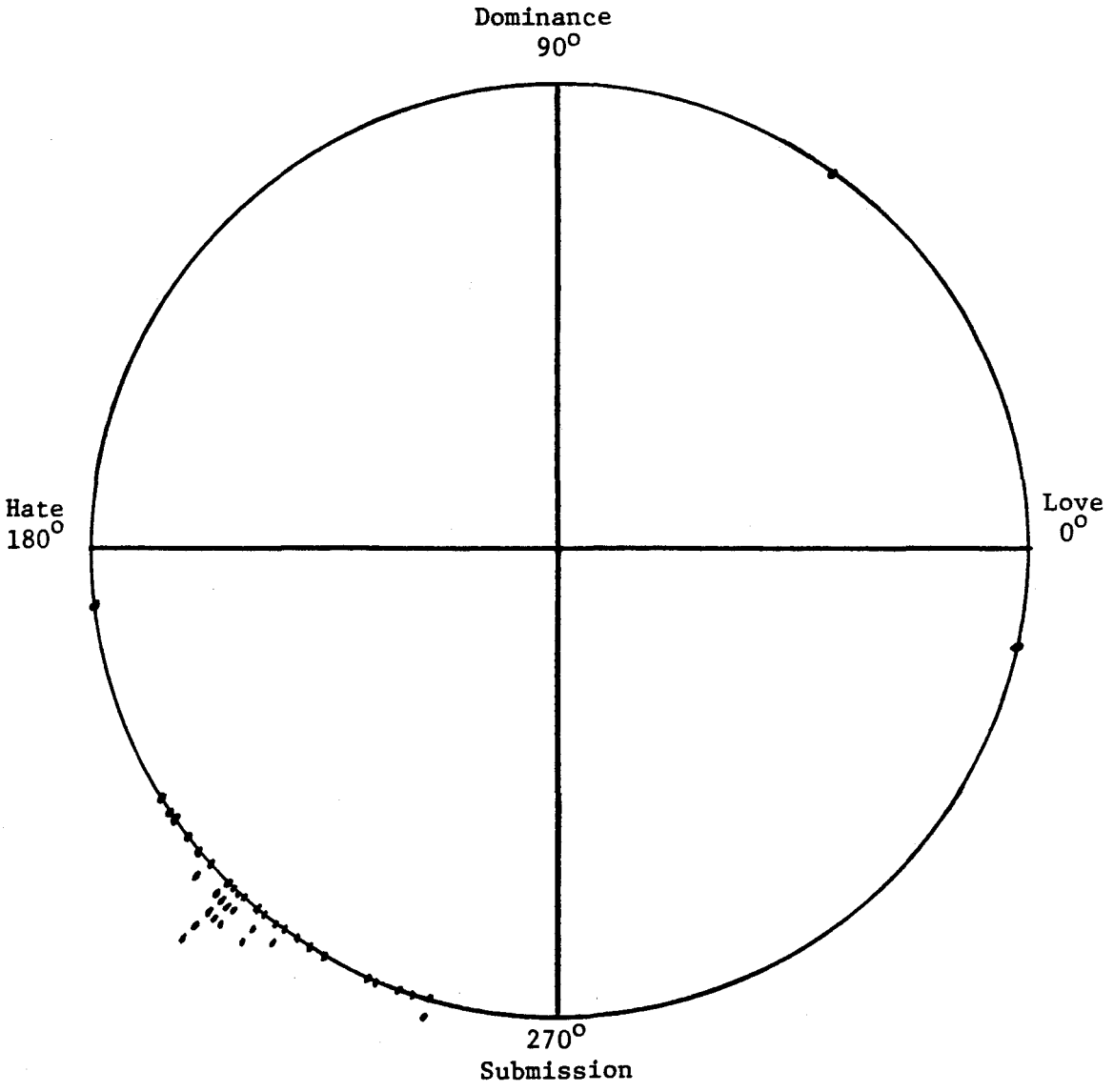


Figure 4.14

Depression Scale (D)

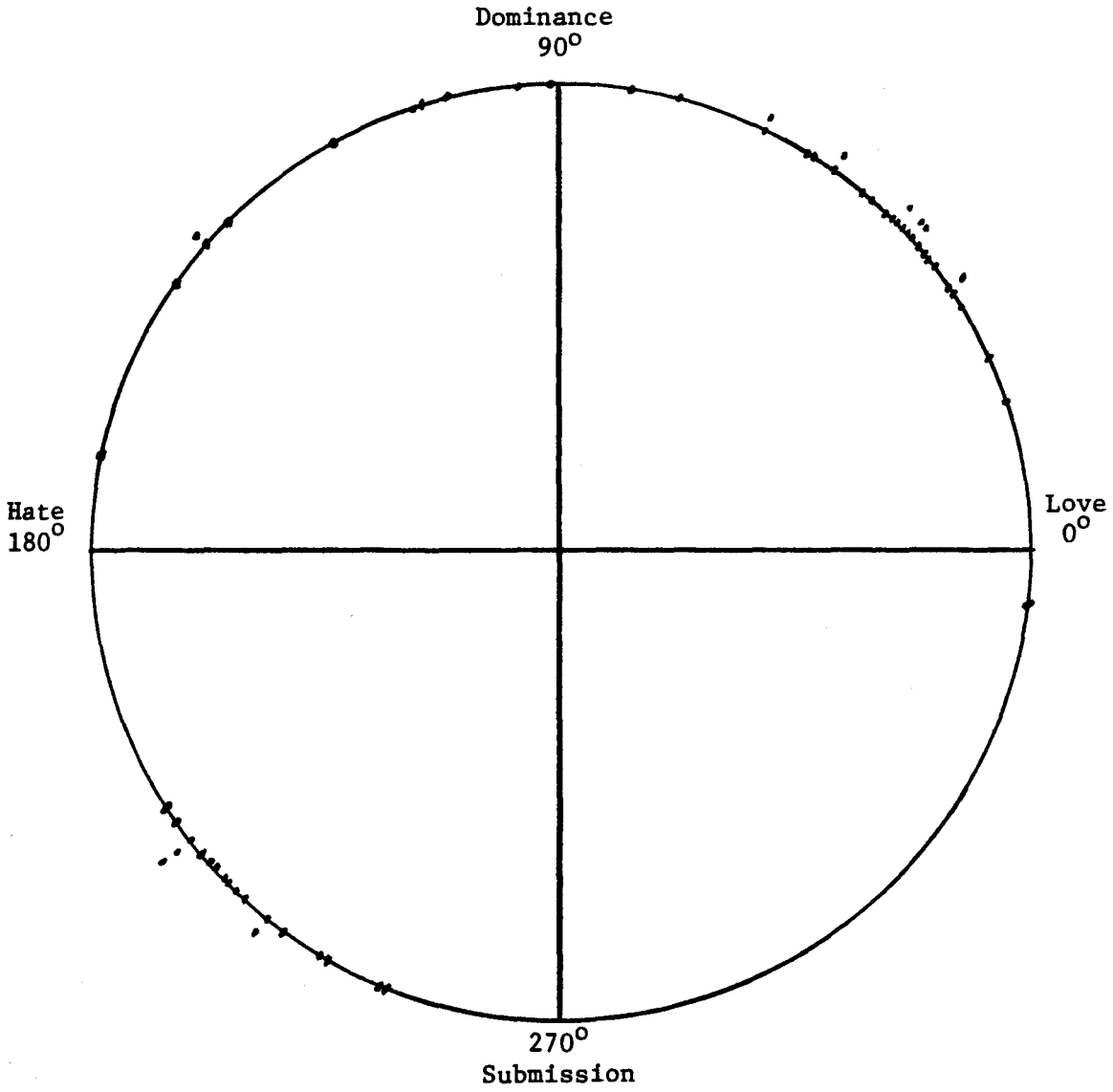


Figure 4.15

Paranoia Scale (Pa)

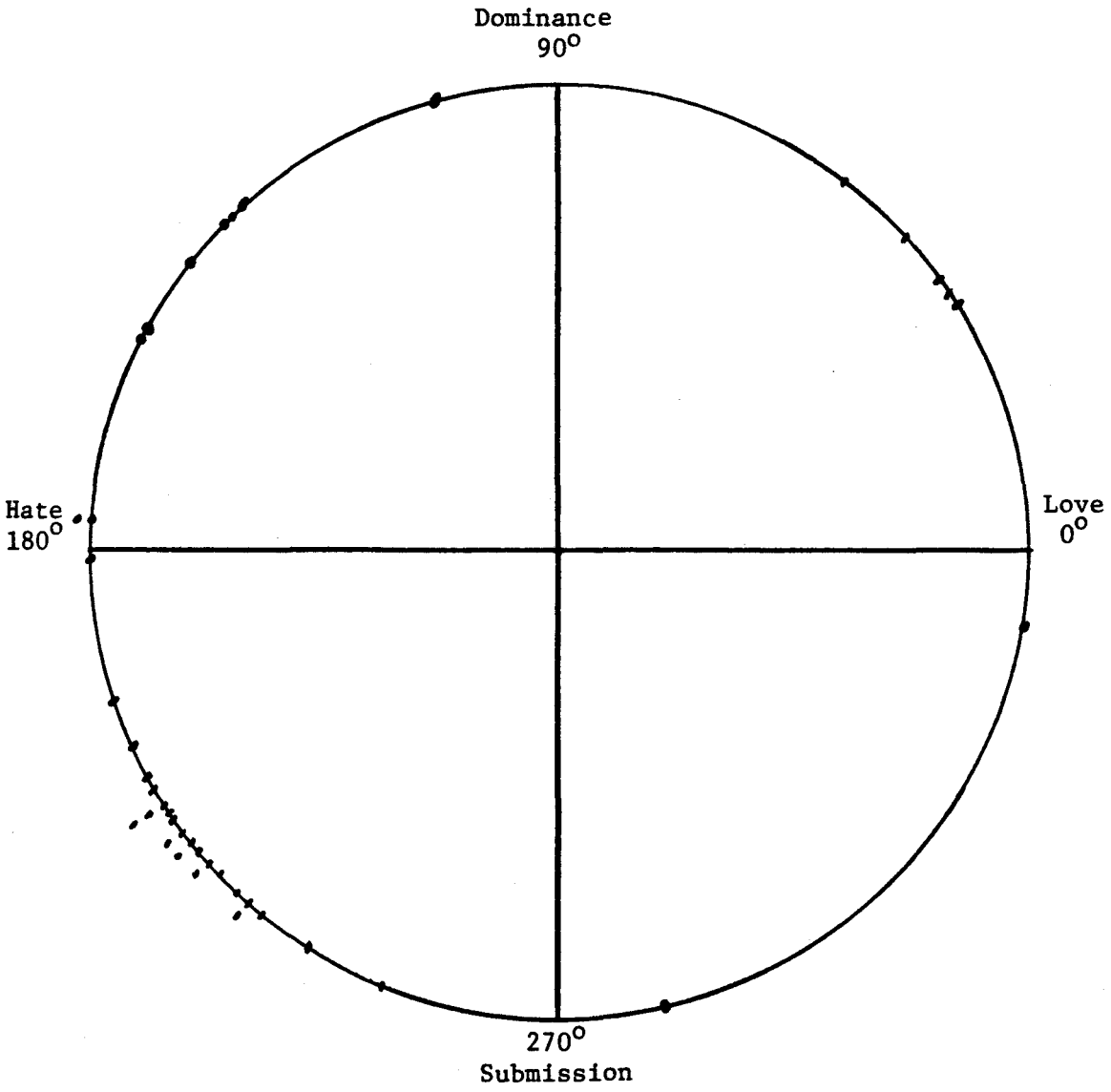


Figure 4.16

Second Factor (R) - Welsh

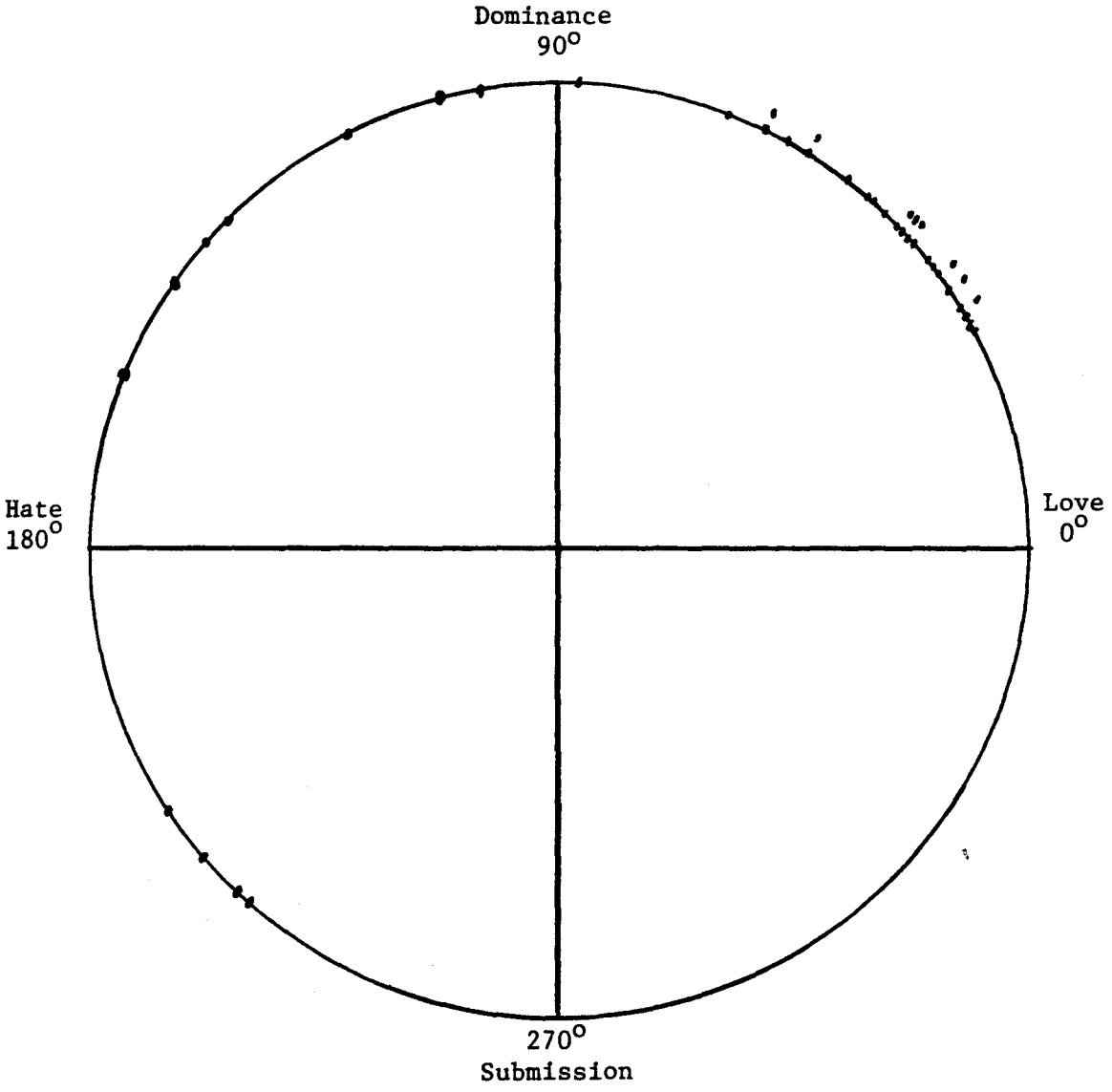


Figure 4.17

Hysteria Scale (Hy)

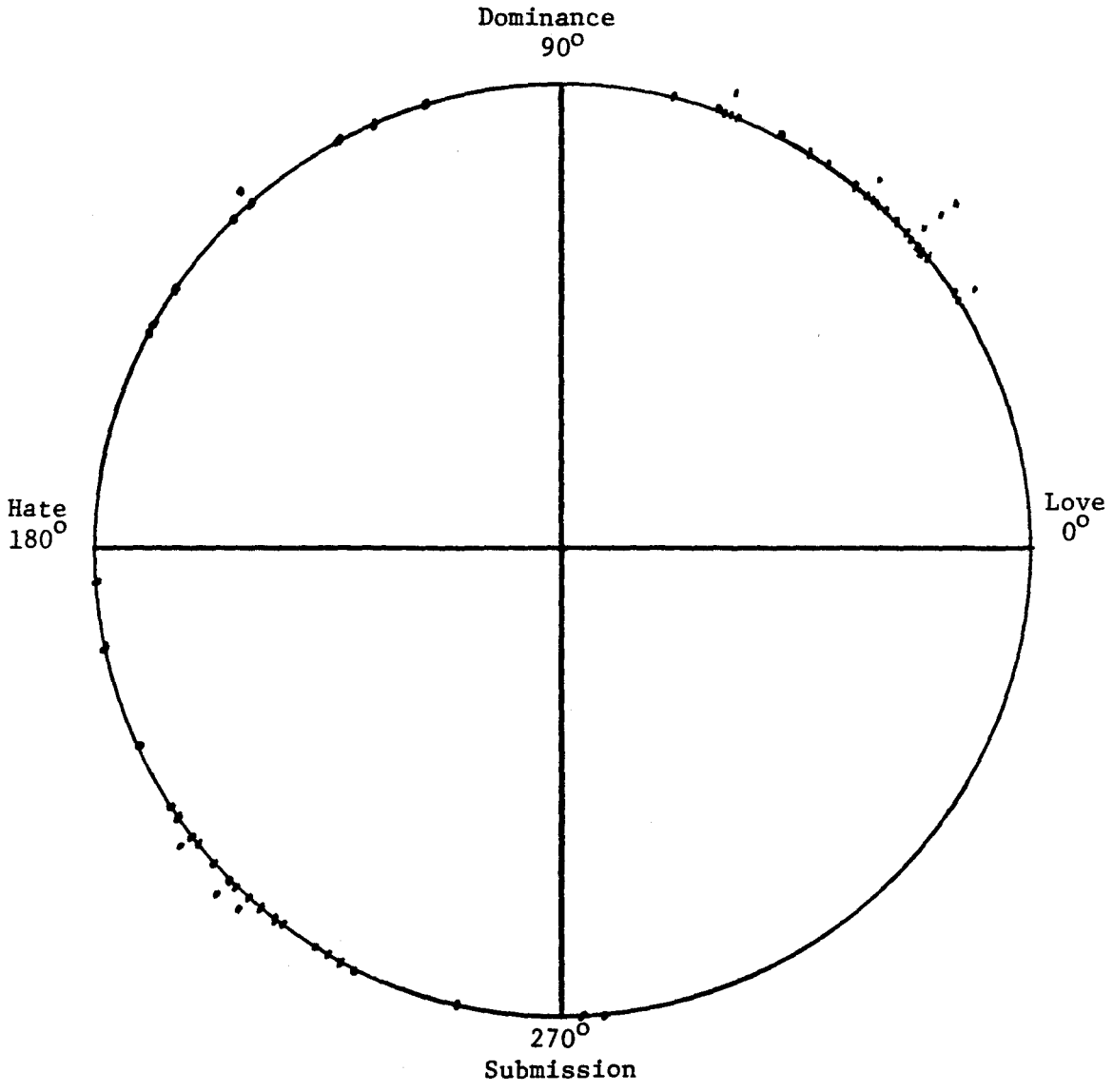


Figure 4.18

Masculinity-femininity Scale - Males (Mf-m)

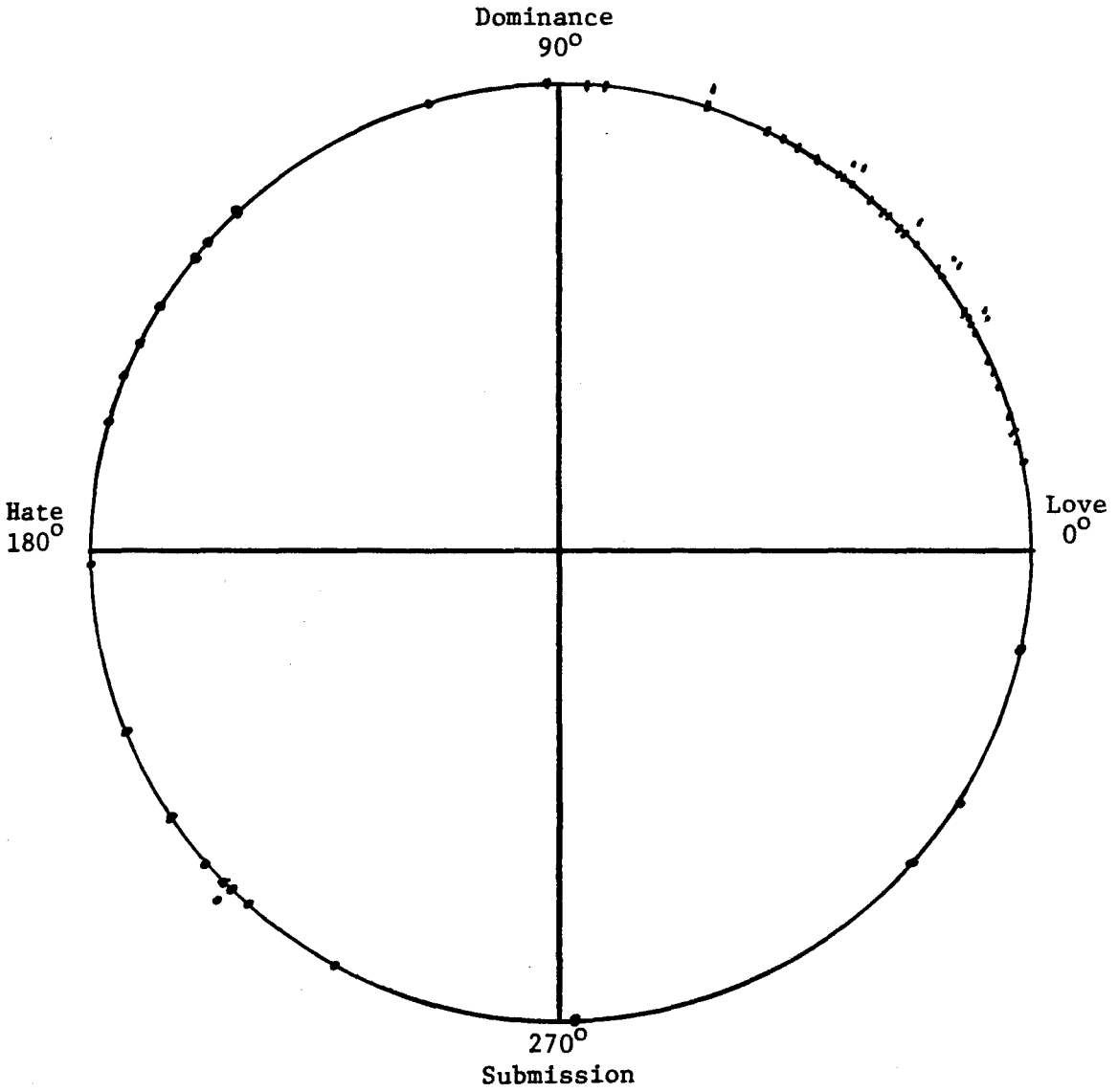


Figure 4.19

Lie Scale (L)

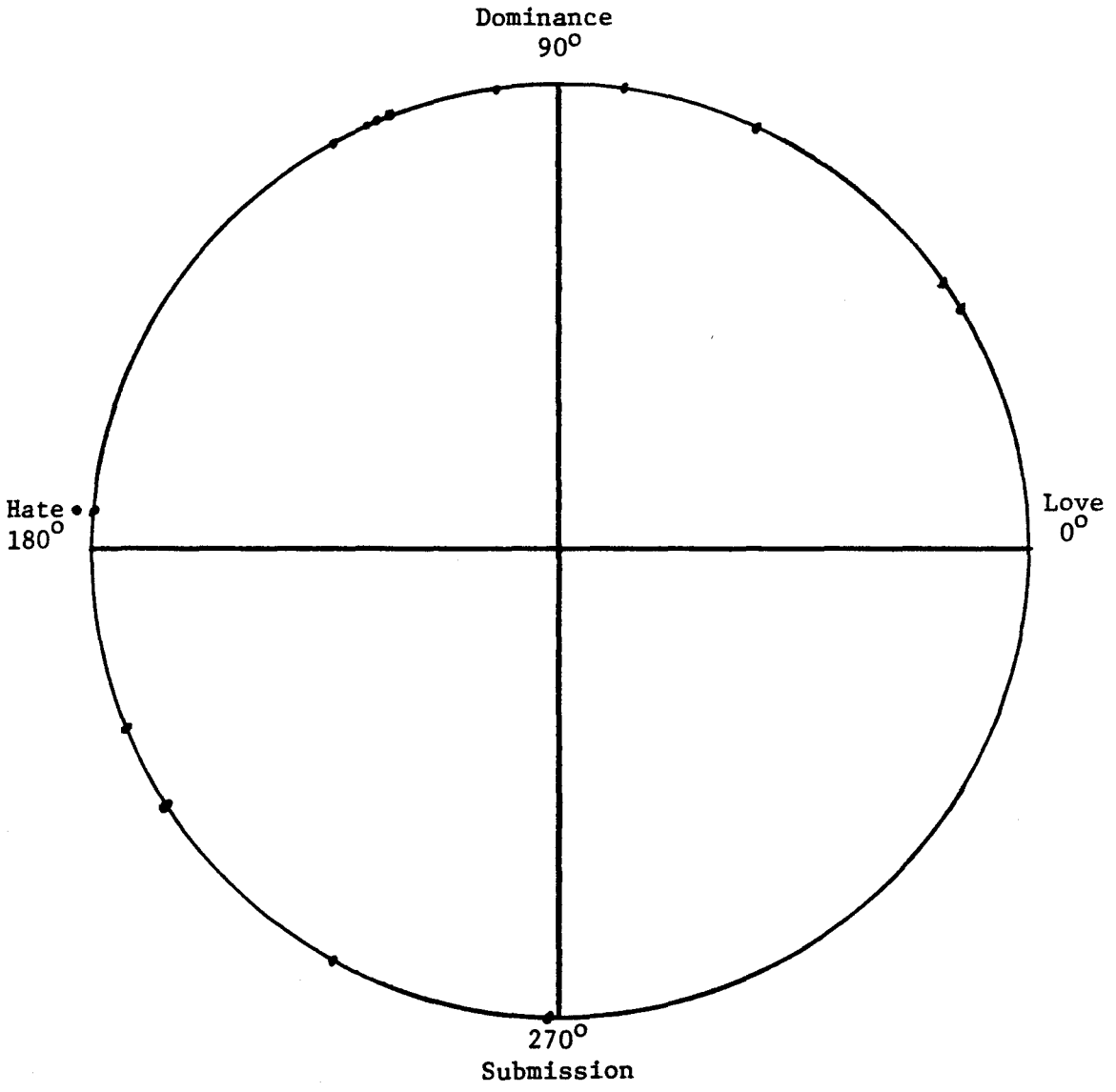


Figure 4.20

Masculinity-femininity Scale - Females (Mf-f)

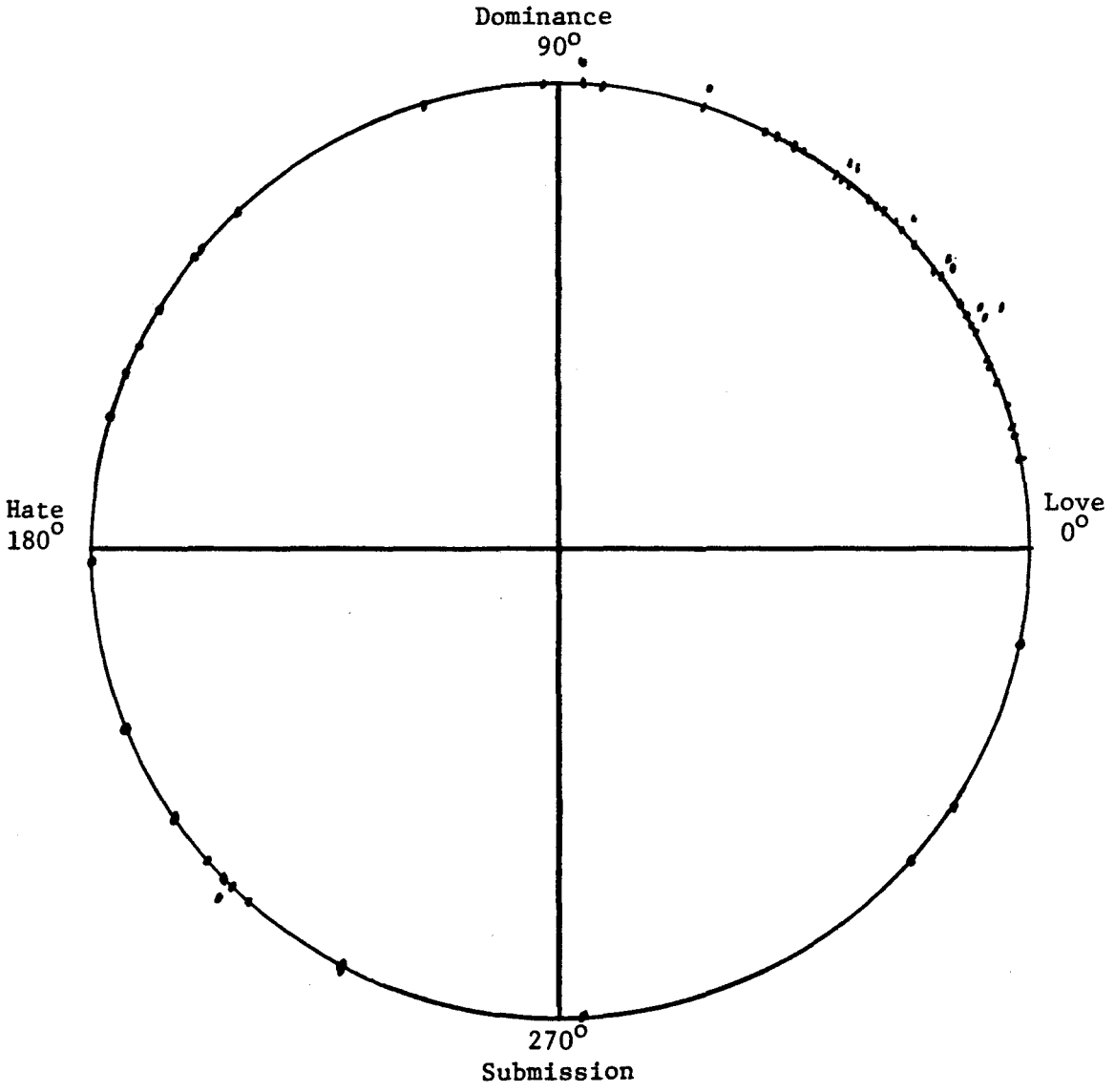
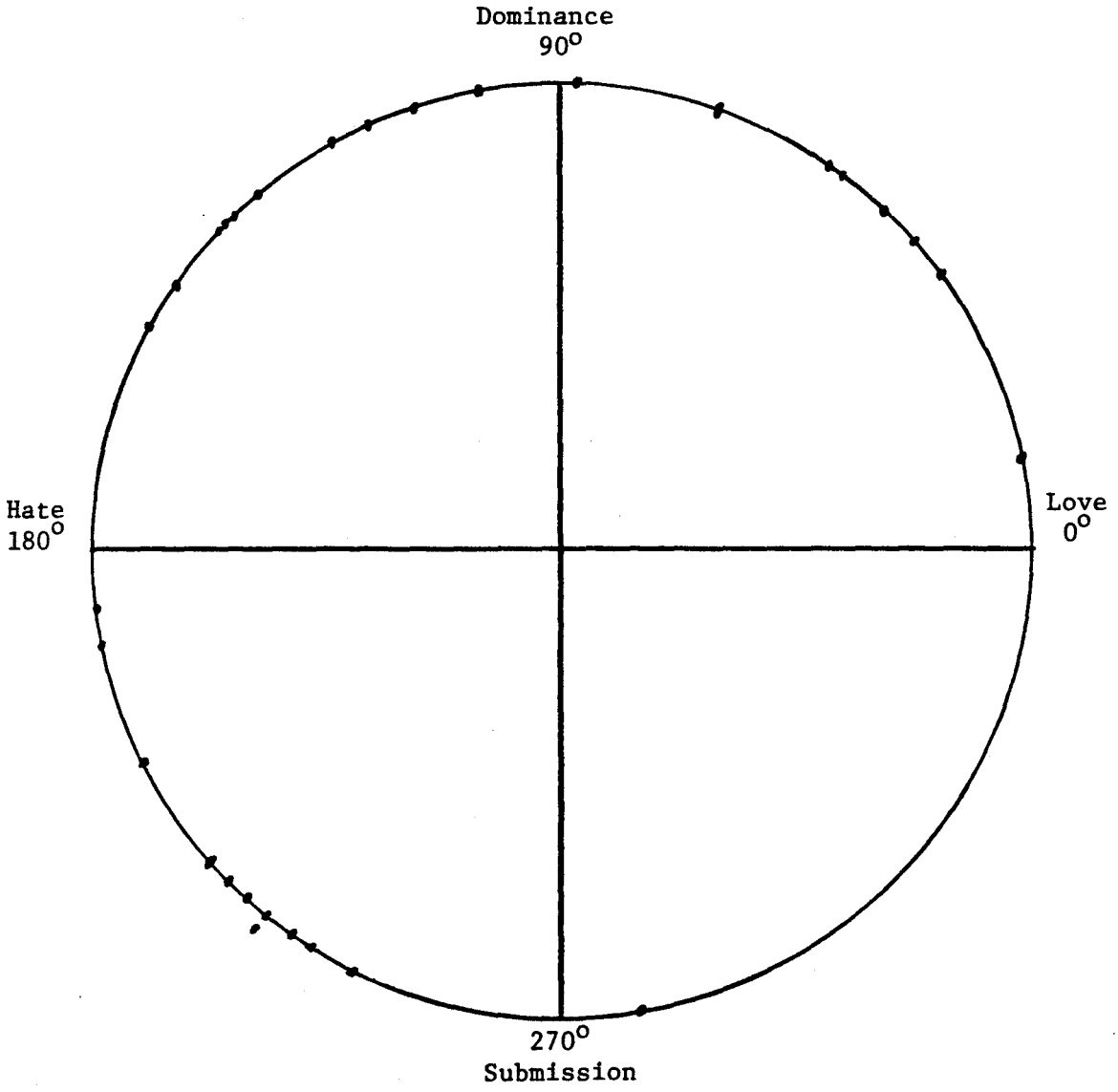


Figure 4.21

Correction Scale (K)



are provided. These figures take each of the nineteen scales in turn and show the item locations on the circular continuum for each of the nineteen scales. Items are shown to the nearest whole angle. Inspection of these figures reveal some interesting results.

Scales which use items keyed both positive (+) and negative (-) show that for the most part the positively keyed items lie opposite to the negatively keyed items, for example, So (Figure 4.4); Es (Figure 4.5); F (Figure 4.8); Sc (Figure 4.9); Pt (Figure 4.10); Si (Figure 4.11); Hs (Figure 4.12), and D (Figure 4.14). Inspection reveals that the scales exhibit items which, although they move around the scale, do all possess gaps between items sometimes as large as 150 degrees.

Other interesting patterns emerge. For instance, Figure 4.5 (Es); Figure 4.8 (F); Figure 4.9 (Sc); Figure 4.10 (Pt); Figure 4.11 (Si); Figure 4.12 (Hs) and Figure 14 (D) show a tight grouping of items usually with a tight group opposite and as observed above with opposite scoring. Tight grouping means items closely related in meaning are clustered on the same scale. Note however, all scales have some items which plot around the circle. The item variance around the circle was expected considering the fact that the items which make up the MMPI scales are not highly homogeneous.

Generally, some items appear to be misplaced relative to the frame of reference of interpersonal traits when utilizing our methodology and sample. There appears to be item confusion in Figure 4.5 (Es) and 4.6 (Ma). This is a clear indication of item misplacement.

One can also see the dispersion of the items over the circular scale clearly in these plots, and these can be compared to the dis-

persion values given in Table 4.4. For instance, Figure 4.12 (Hs scale) has a dispersion value of 0.96. Inspection of this figure reveals the close packing of items in the negative group and a somewhat looser packing of items in the positive group. Figure 4.20 (MF-f) which has a dispersion value of 0.23 shows the opposite. The items clearly are not well packed around either the negative or positive groups, but appear to spread in a wide range around the circle.

In order to represent the item groupings more clearly, all negatively scored items were reflected 180 degrees, and the item plots are presented in Figures 4.22 to 4.40. Inspection of these figures reveals that some scales (Hs, D) are very homogeneous with most of the items scaled to within 40 degrees of one another. Other scales exhibit some close packing of most items but also show a few outliers (e.g., F, Sc). Others show some clustering with many outliers (e.g., Es, Pd) and still others show their items to have scaled all over the circle (e.g., Ma, Mf). Note how the item locations for items from different scales overlap. Thus, relative to interpersonal trait interpretation of the scales, the scales overlap considerably in meaning. Looking at the closeness of some scales on the circle, the overlap in meaning might explain why some items appear on more than one scale.

Duplicate MMPI Items

As previously stated, the MMPI is composed of 566 item-statements. However, of the 566 item-statements, 550 are unique MMPI items plus 16 items which are duplicates of selected original items. Table 4.6 shows the original item number on the first line followed by the

Figure 4.22

Denial of Hysteria Scale (Dn/HyD)

Negative Scored Items Reflected 180 degrees

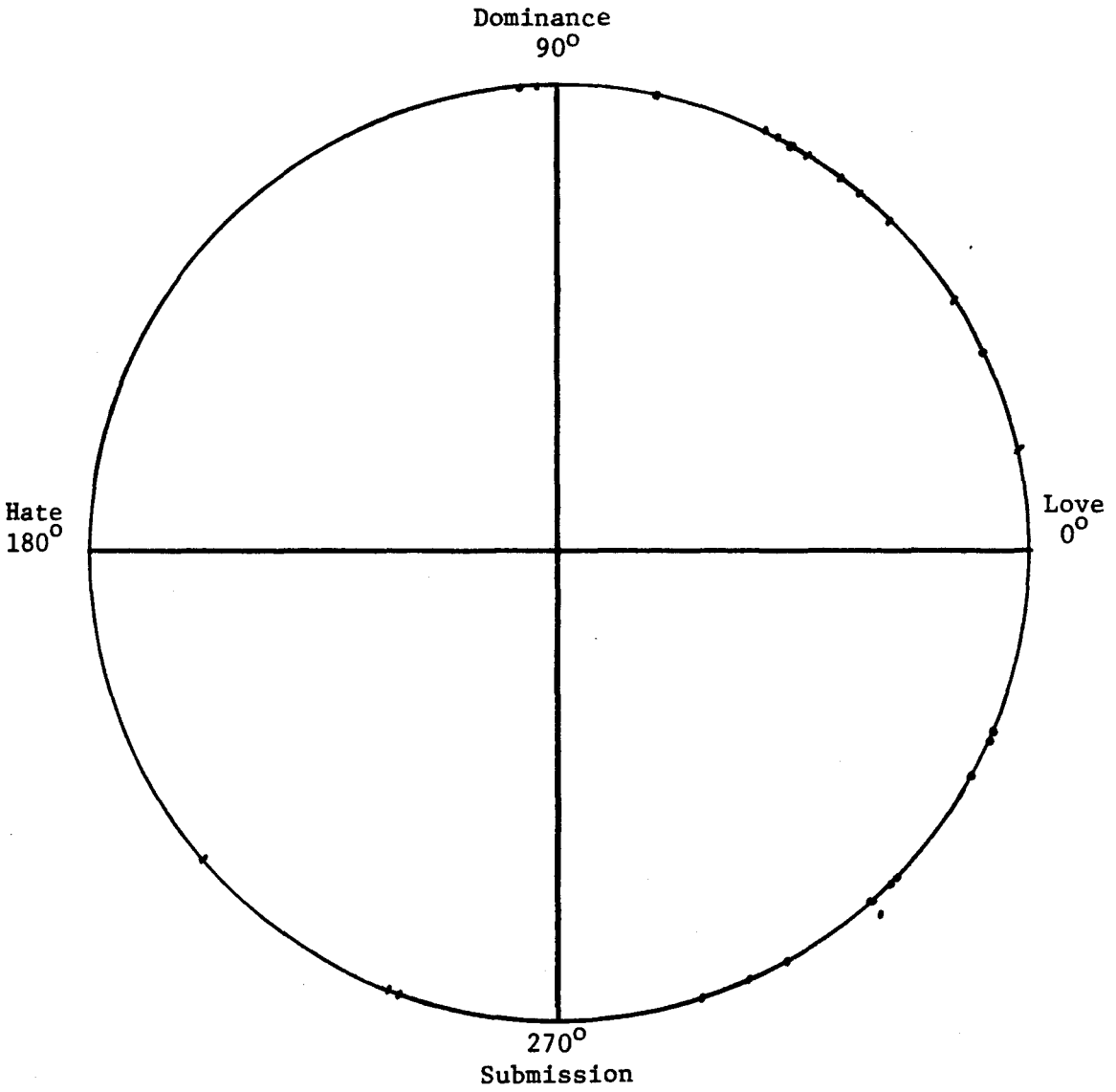


Figure 4.23

Social Desirability Scale (So)

Negative Scored Items Reflected 180 degrees

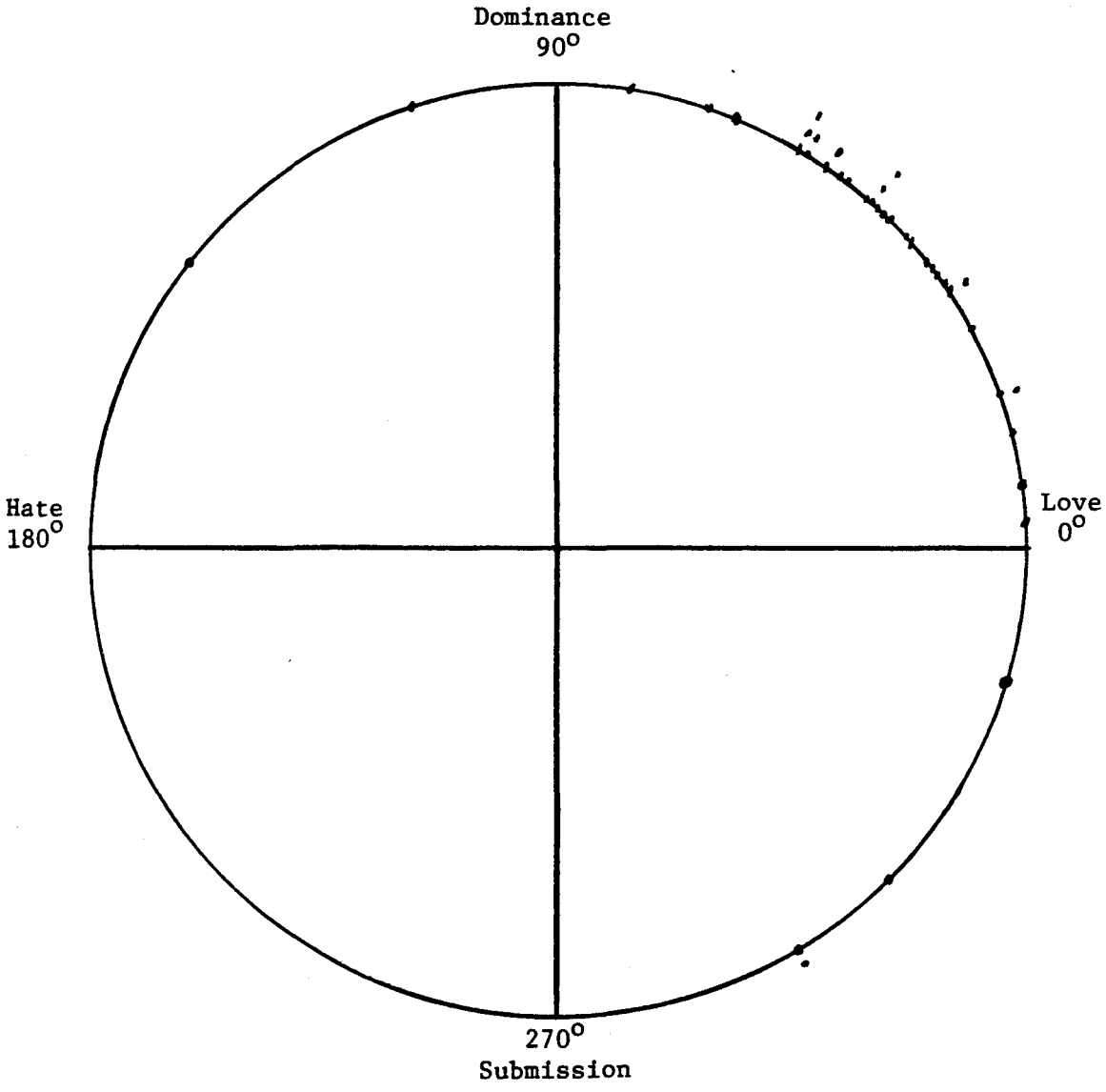


Figure 4.24

Ego Strength Scale (Es)

Negative Scored Items Reflected 180 degrees

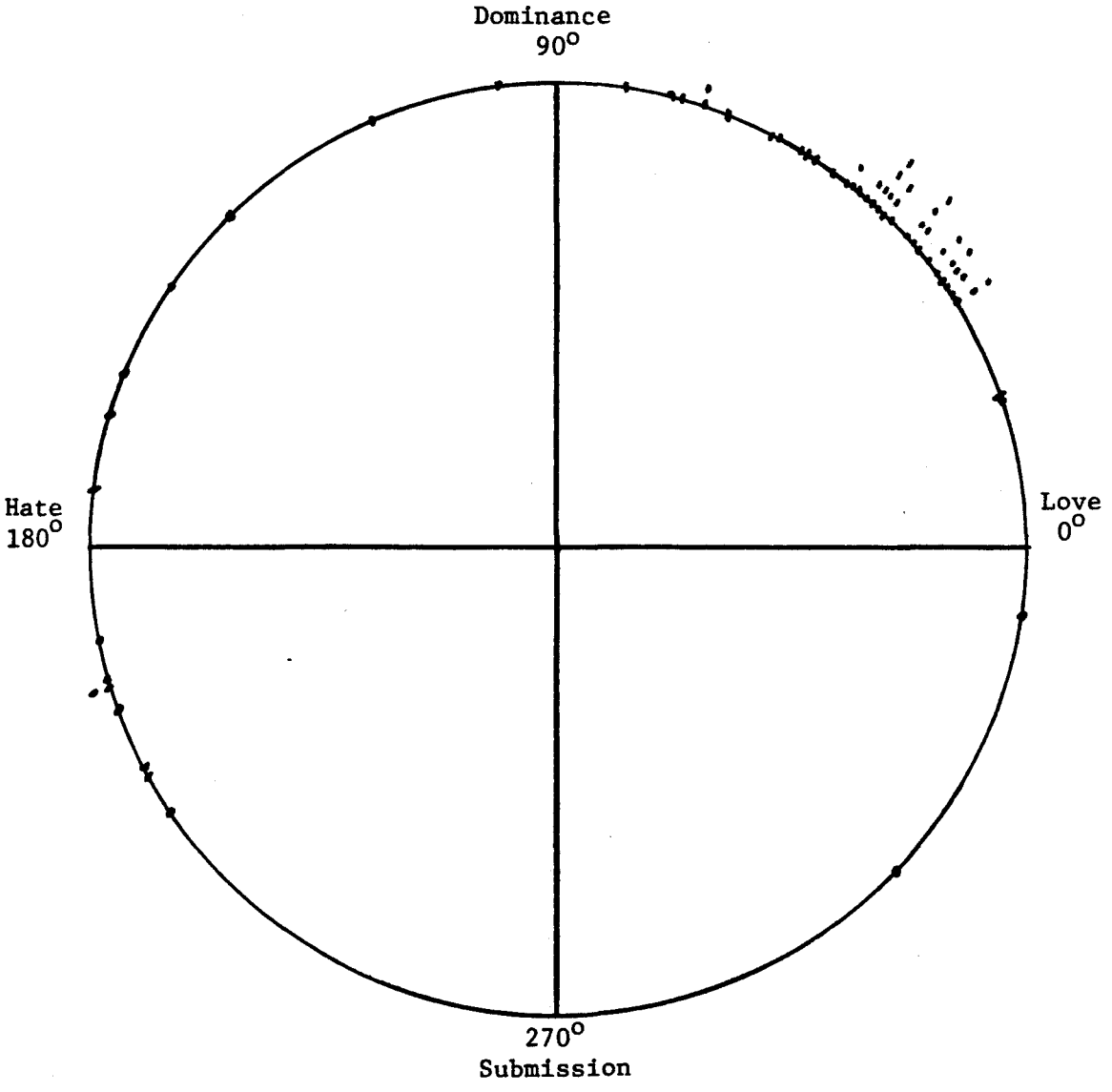


Figure 4.25

Hypomania Scale (Ma)

Negative Scored Items Reflected 180 degrees

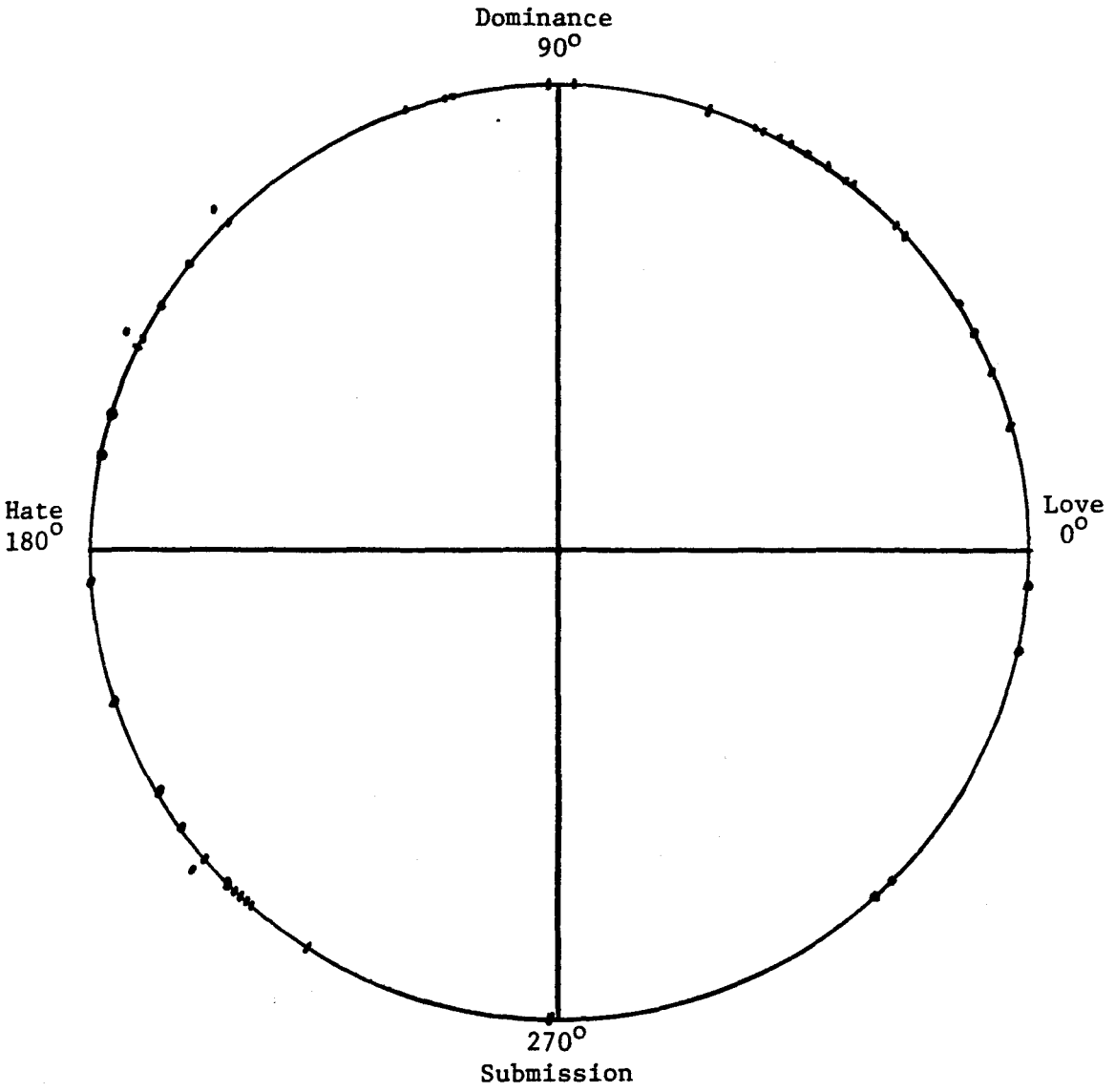


Figure 4.26

Psychopathic Deviate Scale (Pd)

Negative Scored Items Reflected 180 degrees

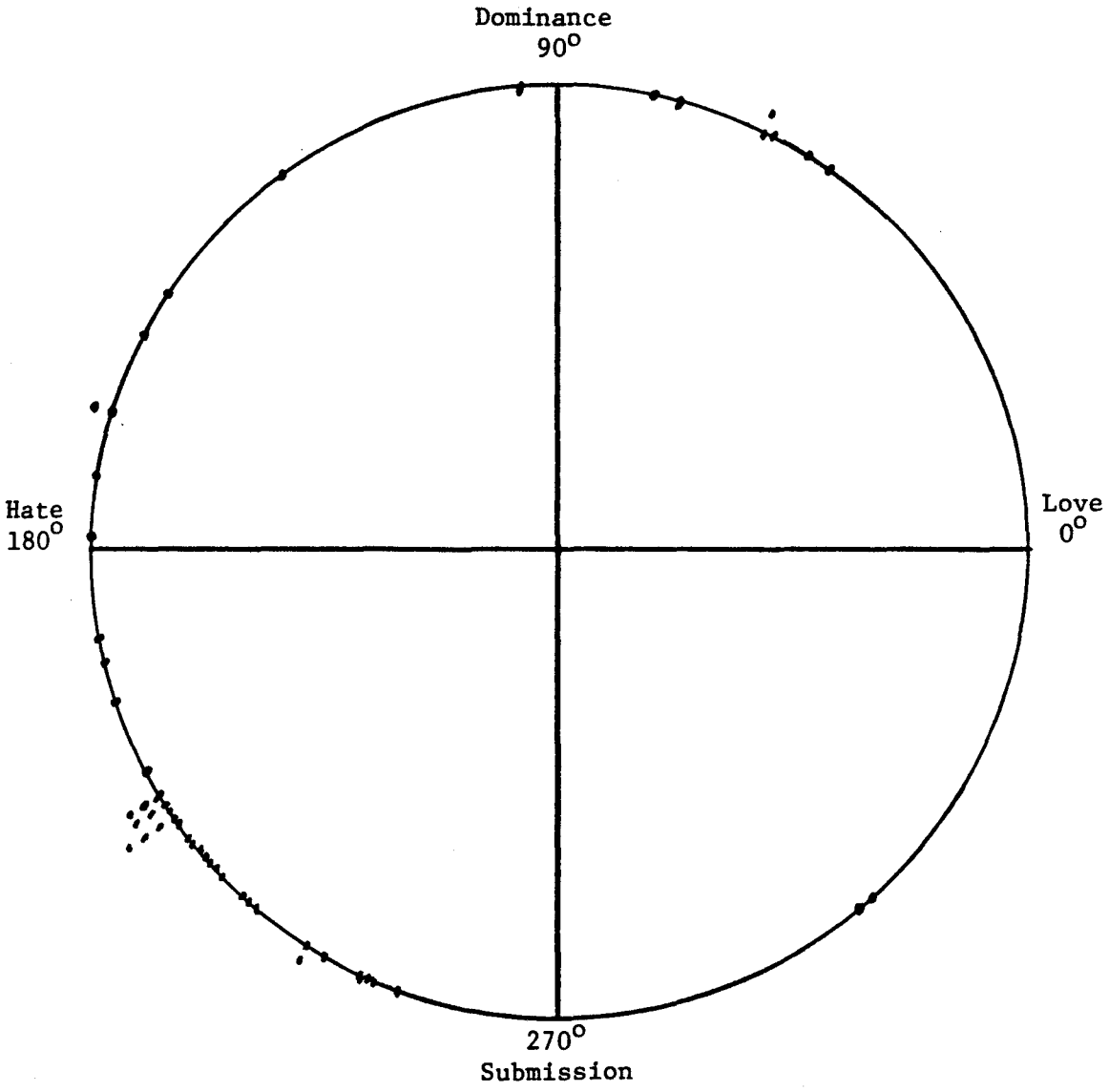


Figure 4.27

Infrequency Scale (F)

Negative Scored Items Reflected 180 degrees

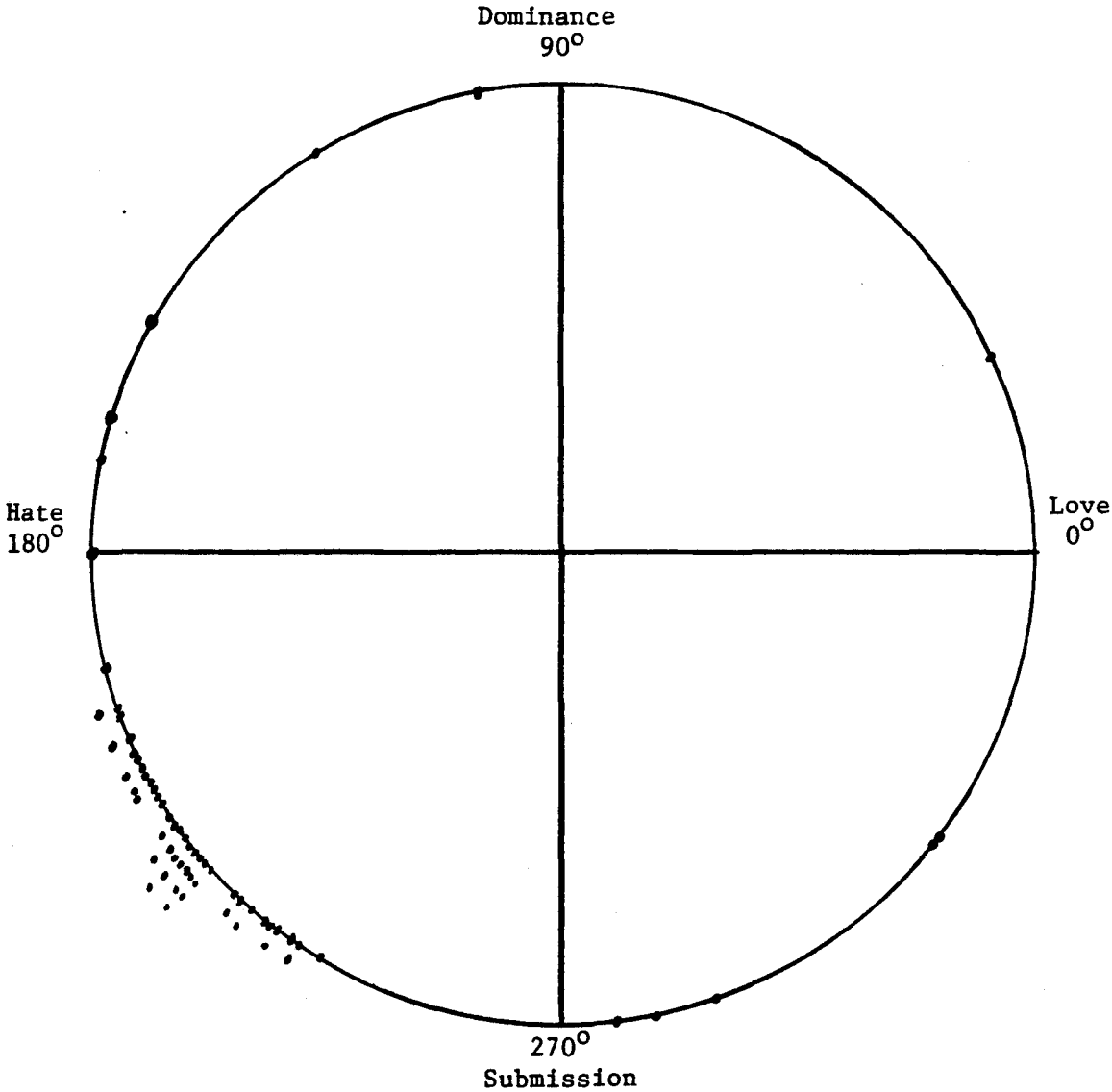


Figure 4.28

Schizophrenia Scale (Sc)

Negative Scored Items Reflected 180 degrees

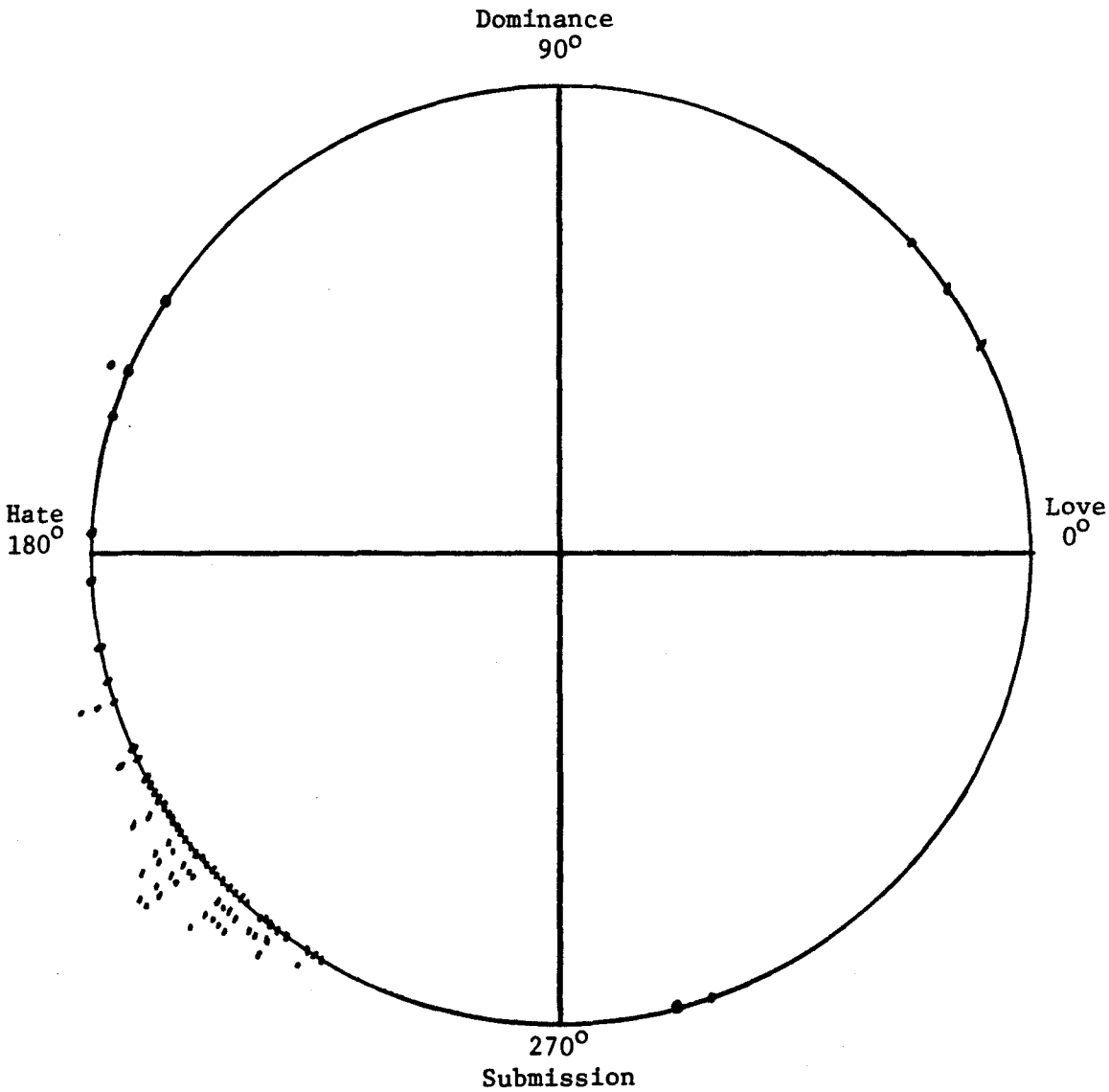


Figure 4.29

Psychasthenia Scale (Pt)

Negative Scored Items Reflected 180 degrees

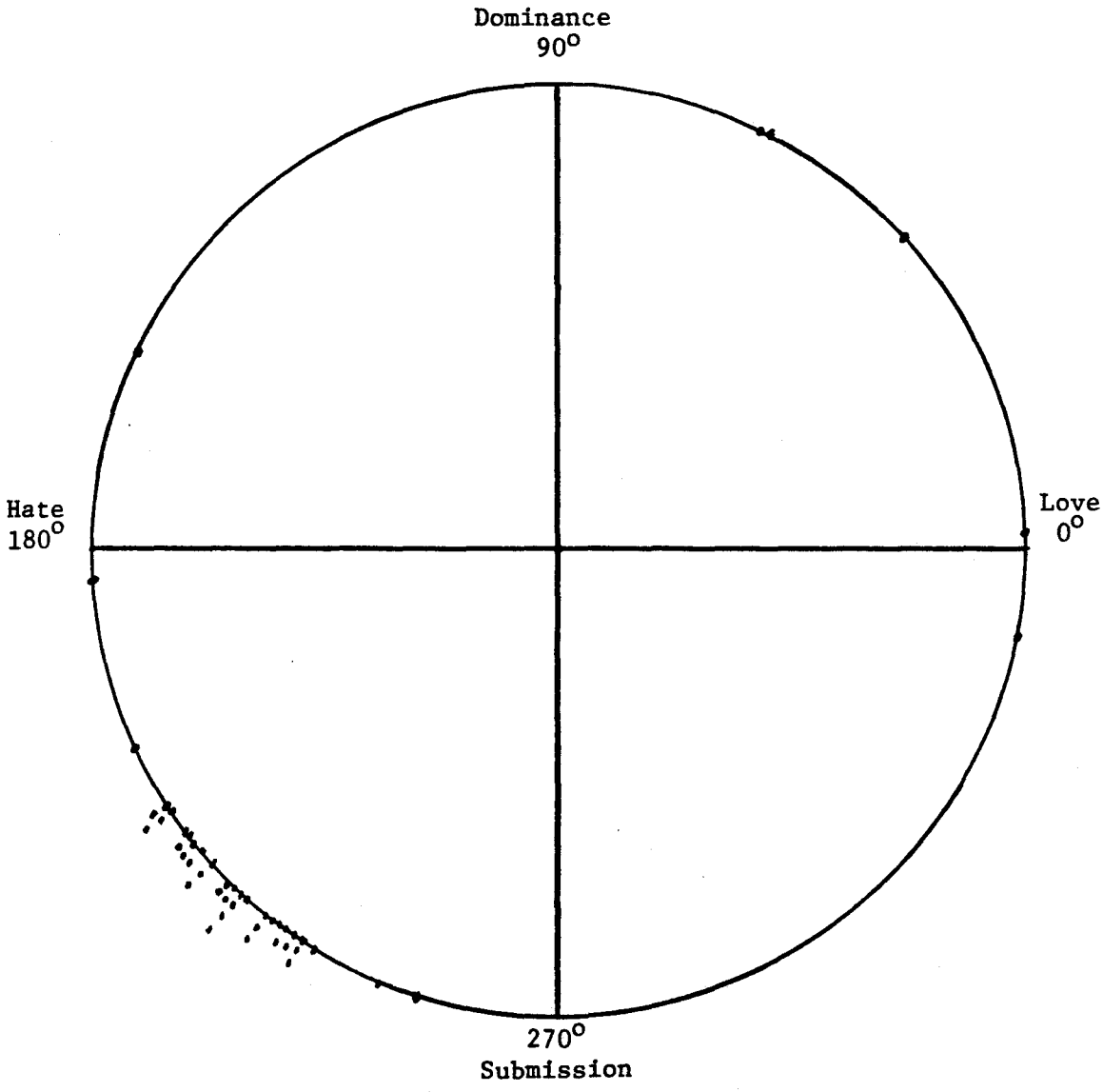


Figure 4.30

Social Introversion Scale (Si)

Negative Scored Items Reflected 180 degrees

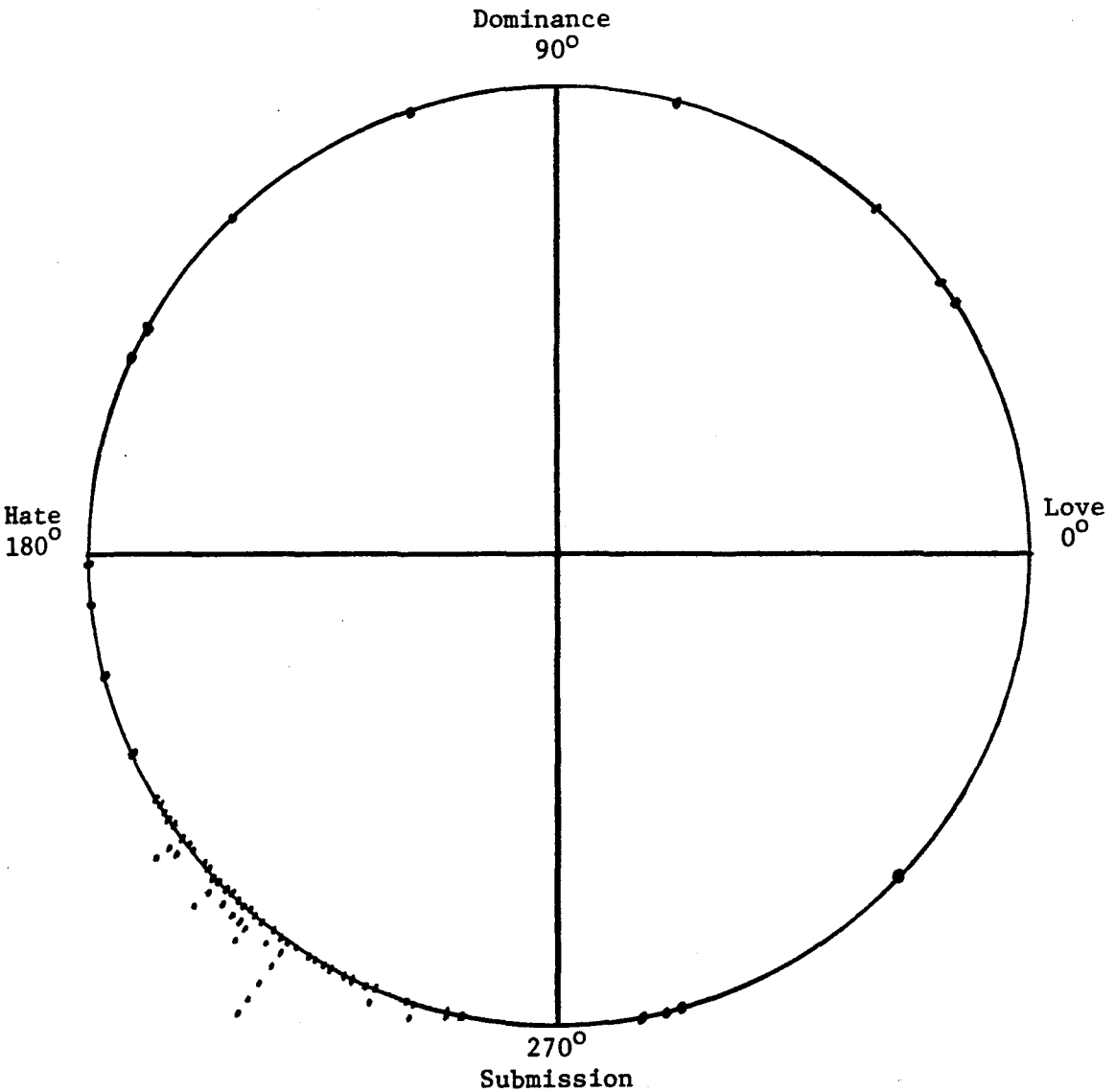


Figure 4.31

Hypochondriasis Scale (Hs)

Negative Scored Items Reflected 180 degrees

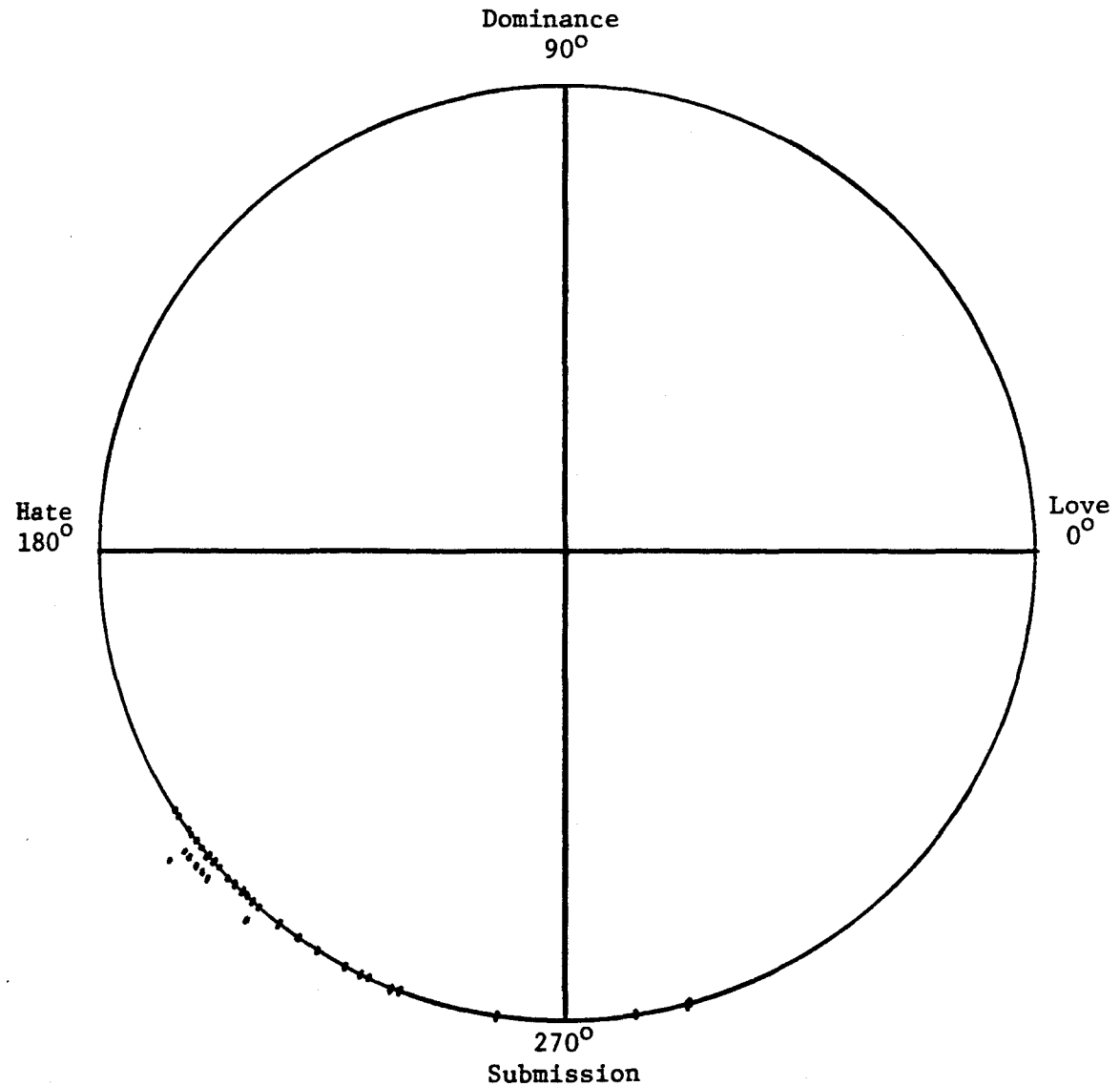


Figure 4.32

Anxiety Scale (A) - Welsh

Negative Scored Items Reflected 180 degrees

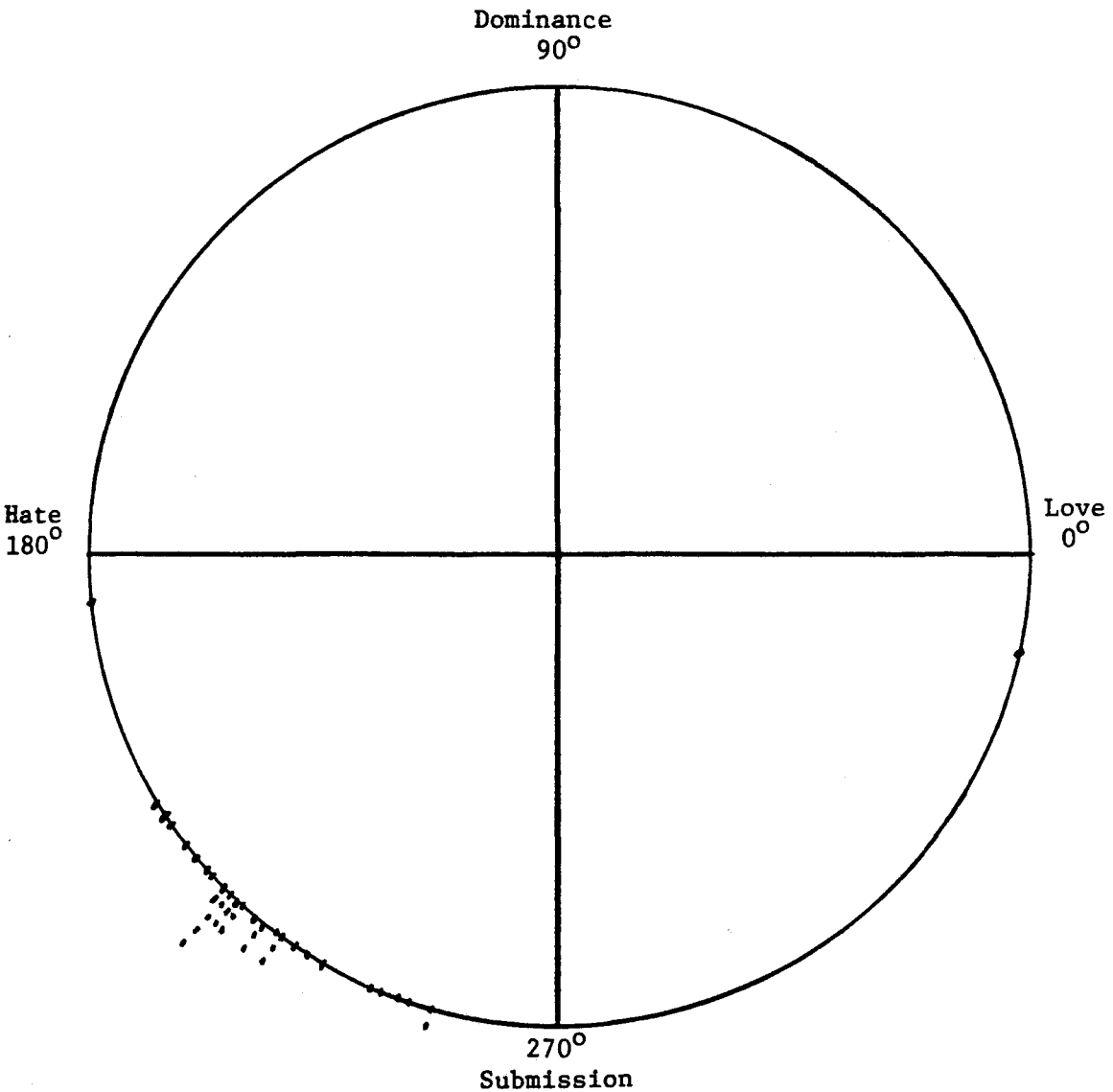


Figure 4.33

Depression Scale (D)

Negative Scored Items Reflected 180 degrees

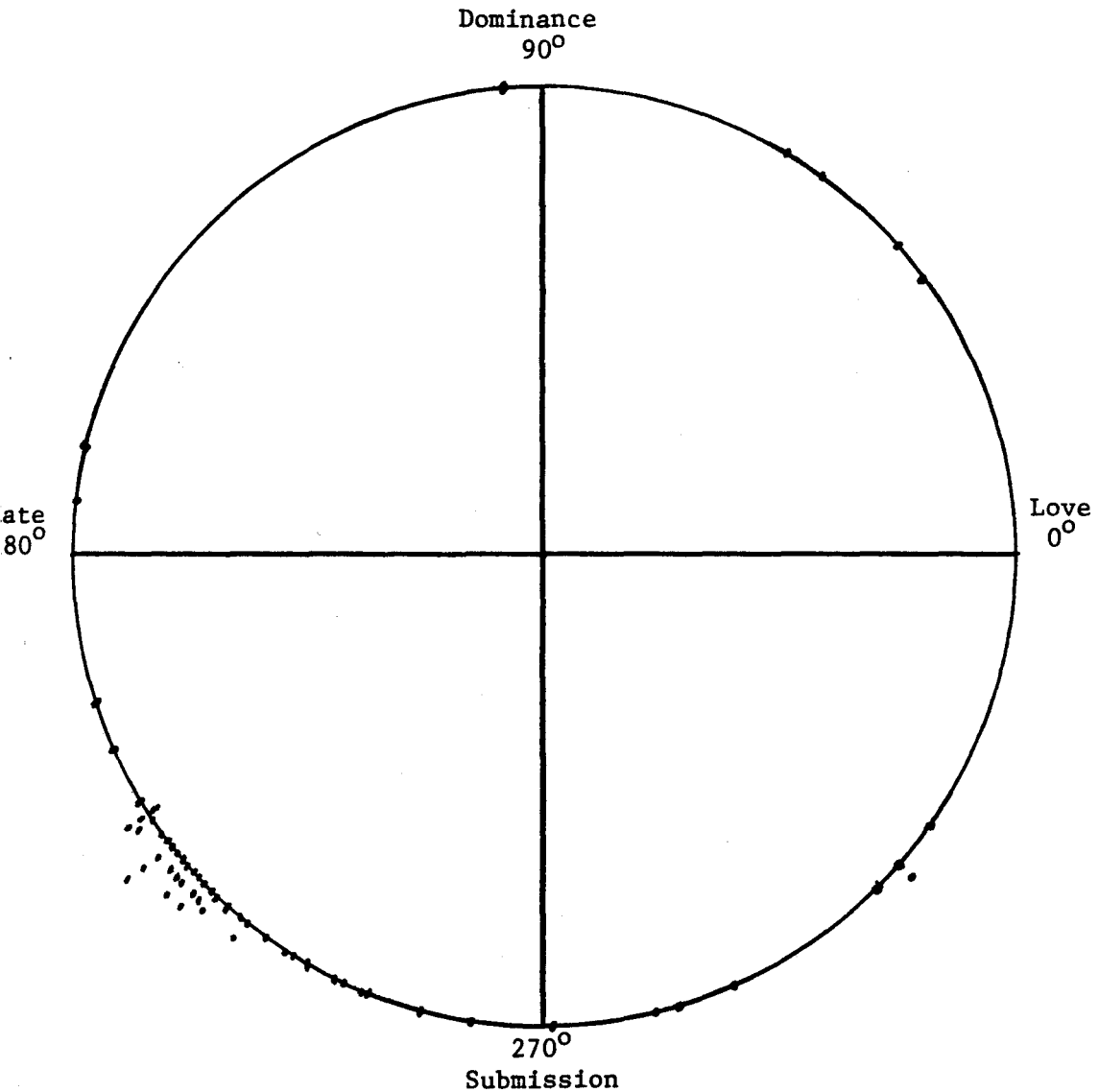


Figure 4.34

Paranoia Scale (Pa)

Negative Scored Items Reflected 180 degrees

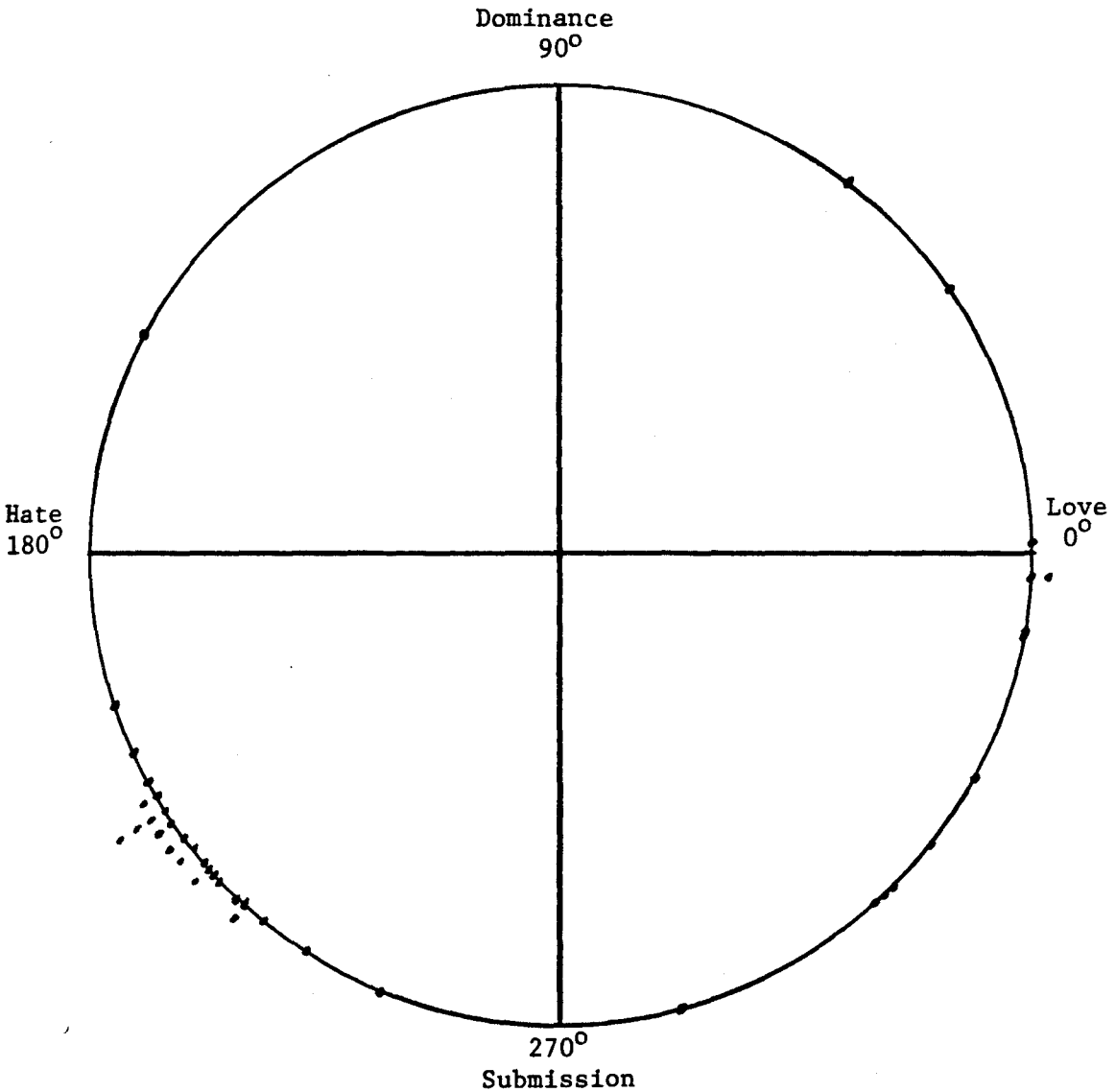


Figure 4.35

Second Factor (R) - Welsh

Negative Scored Items Reflected 180 degrees

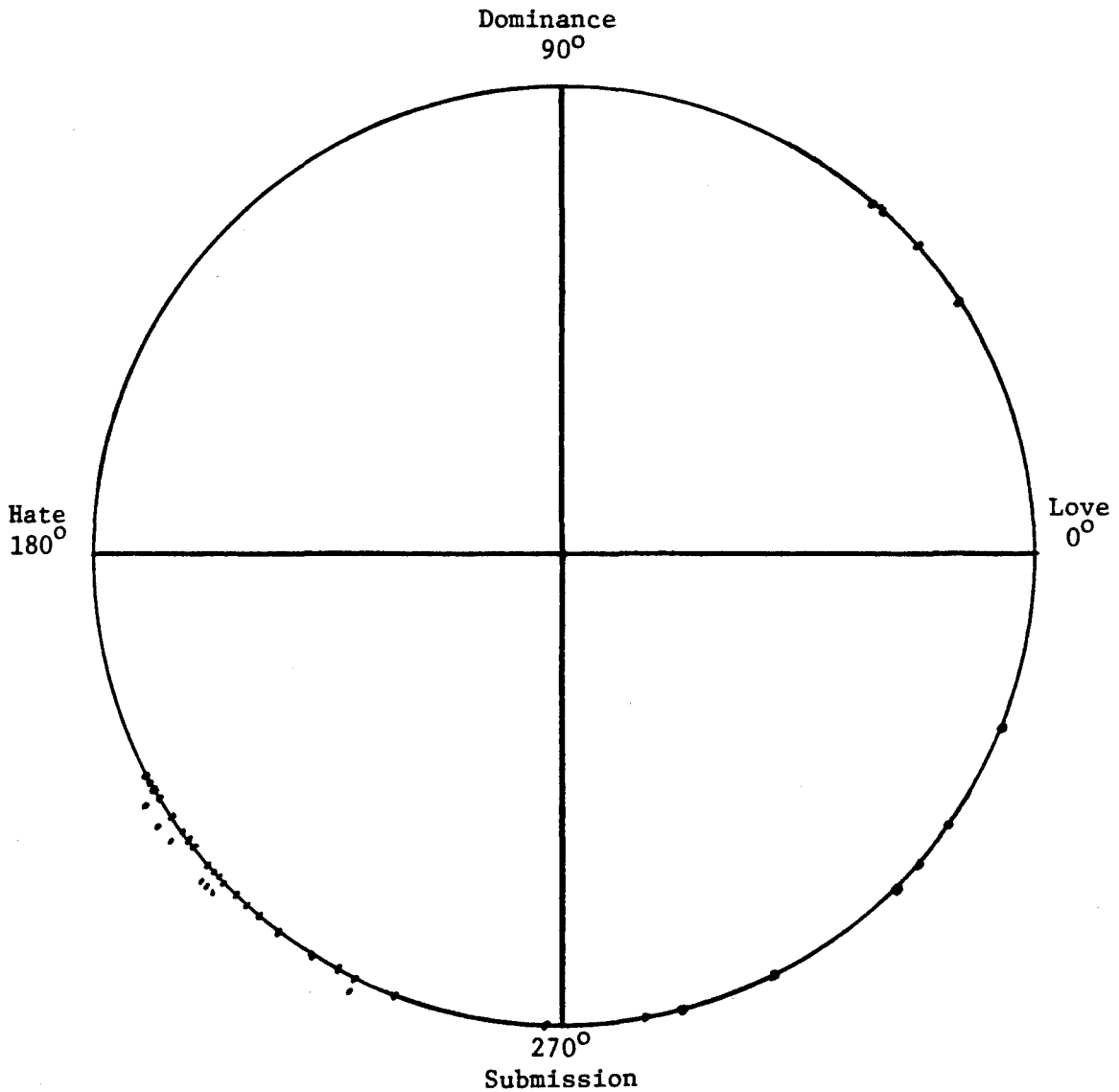


Figure 4.36

Hysteria Scale (Hy)

Negative Scored Items Reflected 180 degrees

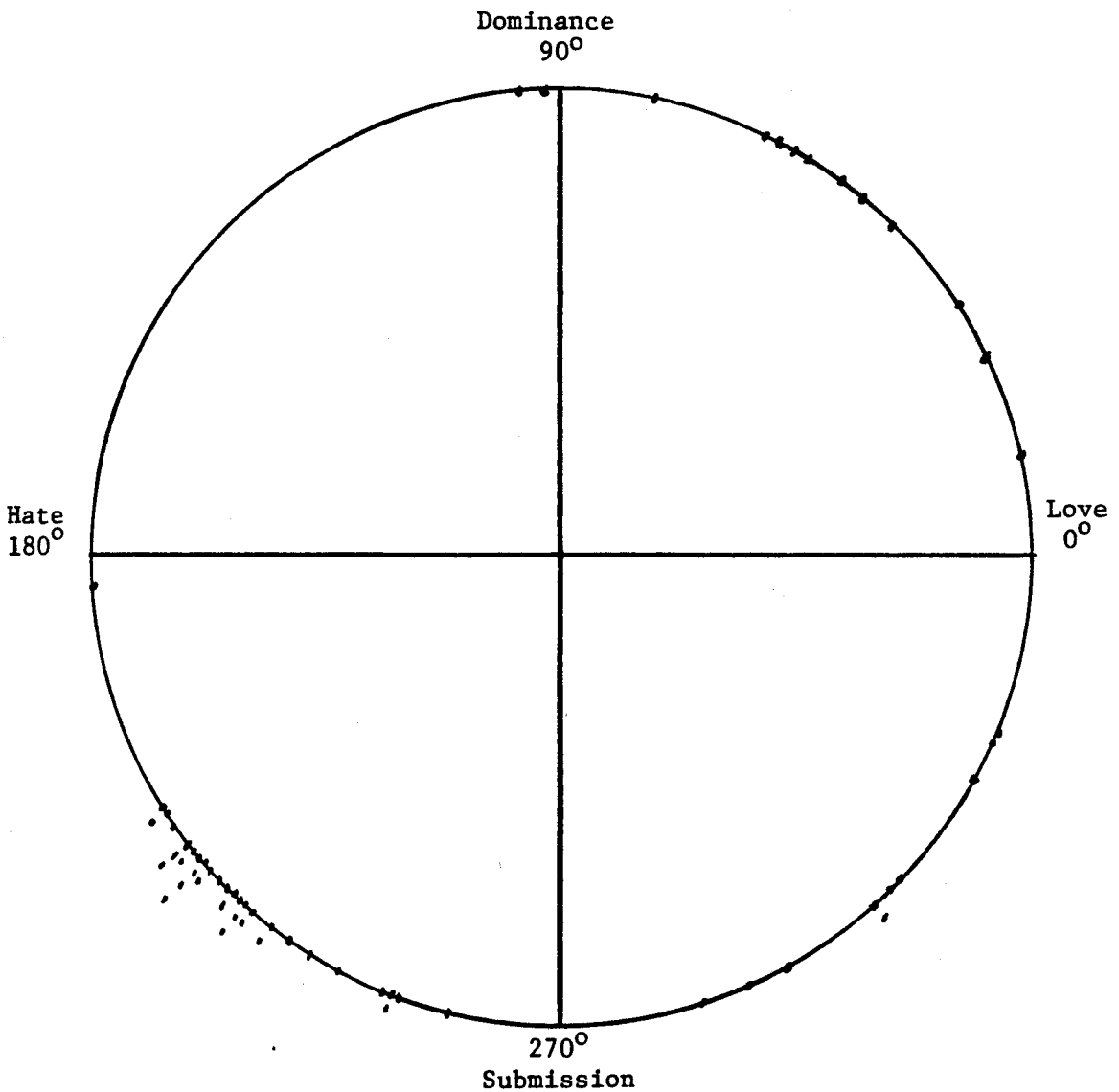


Figure 4.37

Masculinity-femininity Scale - Males (Mf-m)

Negative Scored Items Reflected 180 degrees

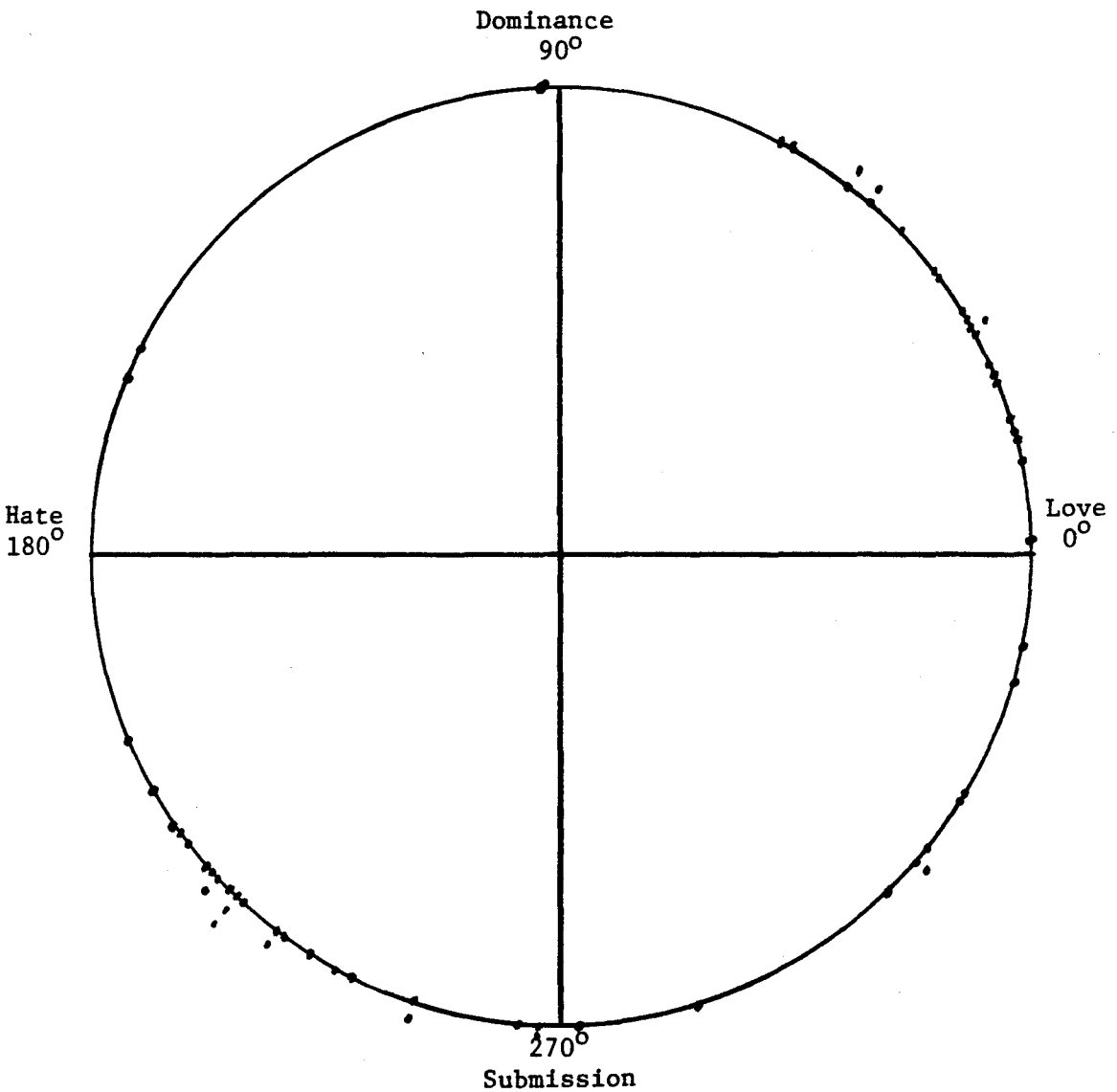


Figure 4.38

Lie Scale (L)

Negative Scored Items Reflected 180 degrees

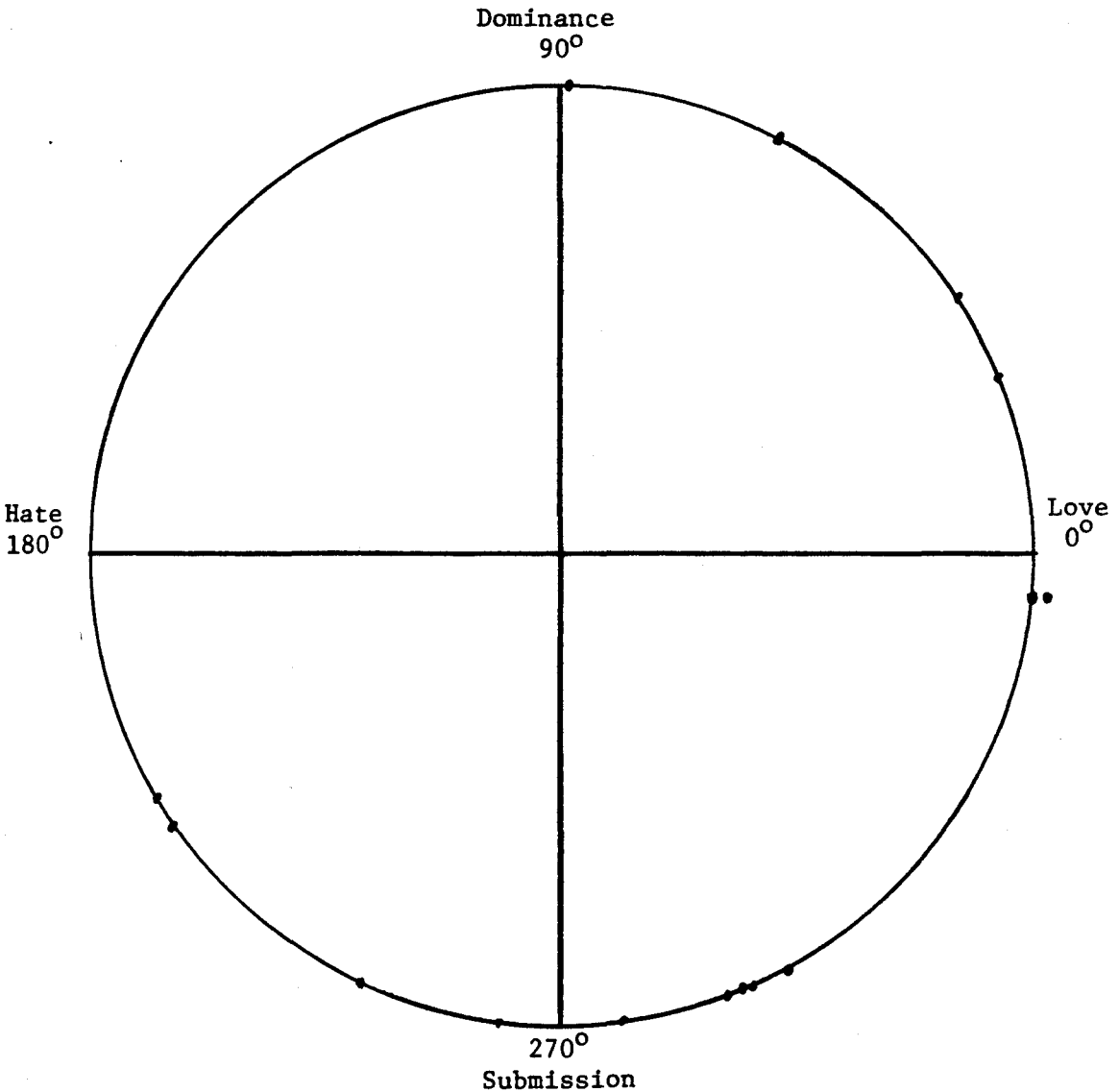


Figure 4.39

Masculinity-femininity Scale - Females (Mf-f)

Negative Scored Items Reflected 180 degrees

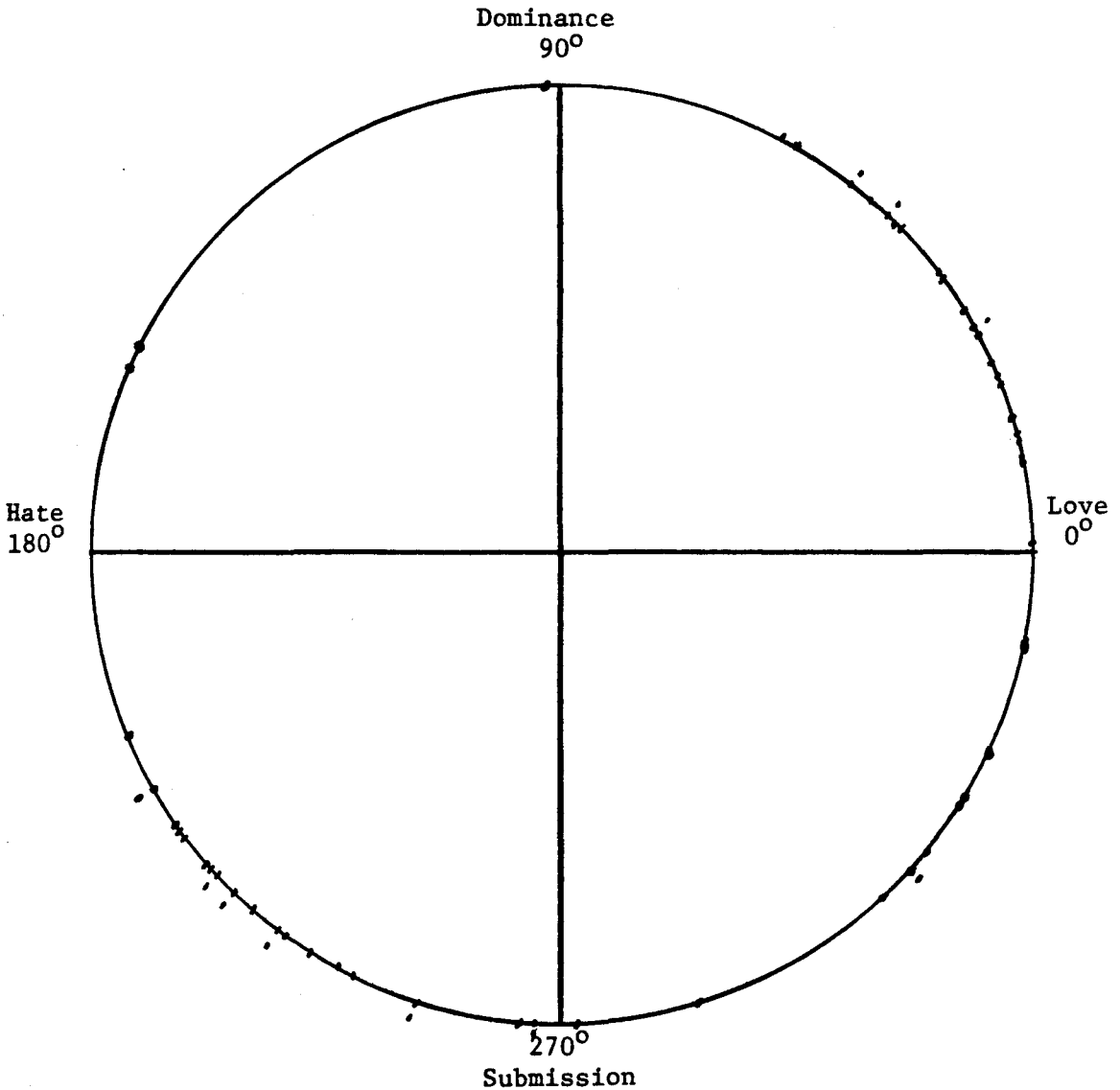


Figure 4.40

Correction Scale (K)

Negative Scored Items Reflected 180 degrees

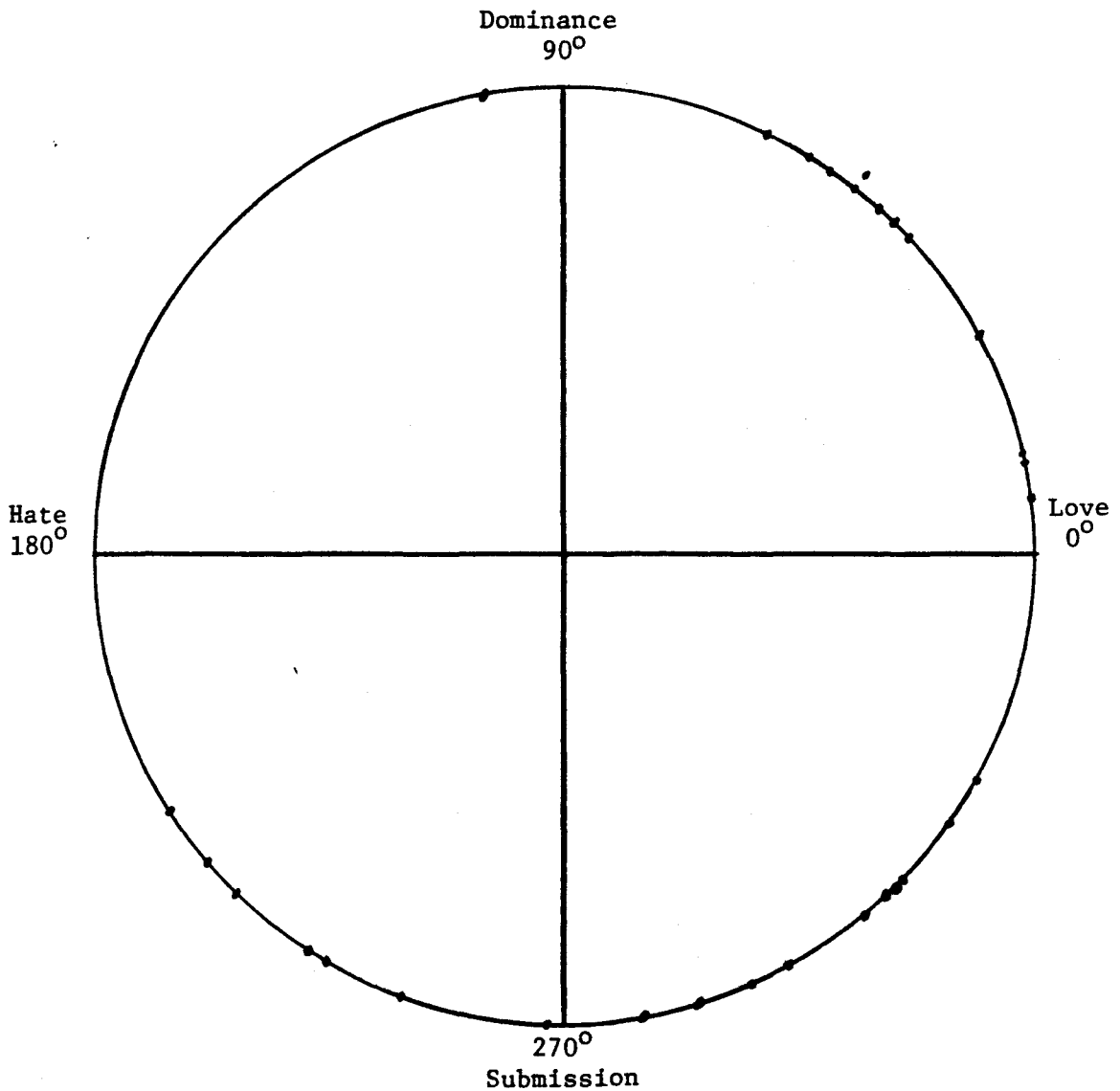


Table 4.6

Frequency Distributions on 9 Point Scale of Submission-Dominance and Hate-Love for the 16 Duplicate MMPI items.

	SUBMISSION - DOMINANCE									HATE - LOVE								
DUPLICATE NO.	-4	-3	-2	-1	0	+1	+2	+3	+4	-4	-3	-2	-1	0	+1	+2	+3	+4
008	0	2	4	7	41	47	73	39	13	1	1	2	4	23	53	73	53	17
318	0	1	4	10	41	56	67	40	8	0	1	4	10	26	54	77	38	14
013	5	1	32	40	40	36	33	24	5	5	25	53	50	46	19	13	13	0
290	4	15	33	22	47	45	32	23	6	1	17	53	61	49	25	11	7	2
015	3	22	53	64	42	25	9	7	2	5	37	59	55	45	16	3	3	2
314	2	13	41	46	61	32	21	8	1	3	14	57	71	49	19	7	5	2
016	21	58	41	28	31	13	20	10	4	30	66	54	24	33	11	5	3	0
315	25	51	56	23	39	7	15	6	3	27	66	61	21	33	9	7	1	2
020	0	1	5	13	24	45	60	19	8	2	1	4	7	63	56	61	20	11
310	1	3	4	12	77	55	49	18	5	1	1	6	8	54	66	60	22	8
021	2	16	27	33	42	48	38	15	3	4	21	58	40	42	26	16	12	5
308	3	11	22	32	47	45	43	13	7	8	17	57	50	42	29	11	8	3
022	12	25	58	47	44	20	12	7	1	7	14	52	45	65	17	14	12	1
326	13	31	48	47	52	16	14	5	0	8	20	43	58	60	23	11	1	2
023	9	33	56	47	63	5	9	3	1	21	34	61	40	62	6	2	0	1
288	12	25	50	48	64	16	7	5	0	20	30	47	39	75	9	4	1	2

Table 4.6 (continued)

	SUBMISSION - DOMINANCE									HATE - LOVE								
DUPLICATE NO.	-4	-3	-2	-1	0	+1	+2	+3	+4	-4	-3	-2	-1	0	+1	+2	+3	+4
024	14	38	67	35	38	11	13	9	0	12	45	69	48	26	8	14	1	2
333	15	32	60	40	42	20	10	6	1	5	52	72	43	28	17	6	3	0
032	5	15	50	62	57	27	7	0	2	5	12	37	74	73	15	6	4	1
328	2	15	41	86	41	22	14	6	0	3	13	41	77	66	12	10	4	0
033	4	11	37	39	81	26	19	7	2	5	15	33	48	86	21	11	6	2
323	3	11	32	52	79	29	17	3	1	3	13	31	57	72	32	14	3	1
035	31	43	53	26	32	16	17	6	1	22	60	62	27	34	6	10	3	1
331	21	38	57	29	39	18	16	6	2	18	59	80	27	31	6	3	2	0
037	2	3	10	10	84	45	34	25	12	5	2	7	27	97	30	30	22	7
302	3	7	12	24	80	42	28	16	13	2	5	8	16	98	40	32	18	7
038	4	14	17	43	55	54	31	6	2	14	15	29	71	66	16	9	6	1
311	8	9	15	37	64	52	26	8	2	8	15	27	73	68	19	9	3	3
305	13	31	62	45	42	20	8	4	0	6	26	67	60	36	17	10	4	0
366	10	33	50	51	42	23	11	4	1	4	23	63	70	36	21	6	3	1
317	3	9	32	63	36	39	32	9	4	3	1	14	43	46	57	48	12	2
362	3	20	52	56	35	24	27	6	4	0	7	15	46	54	56	34	12	2

duplicate item number, and the frequency distribution on the two dimensions. Table 4.7 presents the items with the dimension means, angles and angular difference. Angular differences are rather small over all 16 duplicates with the $\bar{x}$ = 6.8 degrees for the angular differences. If the last item difference 49.1 degrees is omitted, the adjusted mean is 5.5 degrees. It appears that this last item contributed significantly to the original 6.8 degree mean difference. Only two other duplicates are over 10 degree. A rank order Spearman correlation coefficient was performed on the angles of the original and duplicate items using Table 4.7 data. The calculated correlation was found to be r_s = 0.94. Most of the items and duplicates are separated by about 300 other items. The last item; however, is separated by only 45 items. This suggests perhaps some item ambiguity. Overall, these findings are an indication of the high reliability of the scaling procedure with this sample over a short period of time.

Interrater Reliability

Interrater reliability for this scaling methodology was determined by having half of each group of males and females scale items in serial order (1...566). The remaining half scaled the items but with the first 50 items following items 51...566.

Table 4.8 presents the item with the frequency distribution by dimension and group (either first 50 or last 50). Table 4.9 shows the item mean on the two dimensions by the first 50 or last 50, the first 50 angle, the last 50 angle, significance level using the Kolmogorov-Smirnov statistic and the angular difference. A Pearson product monu-

Table 4.7

16 Duplicate MMPI Items

with Dimension Means, Angles and Differences

ITEM	SUBMISSION-DOMINANCE	HATE-LOVE	ANGLE	DIFFERENCE
008	1.509	1.811	39.8	-1.8
318	1.414	1.594	41.6	
013	0.164	-0.746	167.6	7.5
290	0.234	-0.646	160.1	
015	-0.775	-1.178	213.4	11.4
314	-0.324	-0.806	201.9	
016	-1.190	-1.858	212.6	-5.3
315	-1.427	-1.828	218.0	
020	1.013	1.138	41.7	4.4
310	0.866	1.137	37.3	
021	0.169	-0.540	162.6	8.5
308	0.345	-0.711	154.1	
022	-0.960	-0.590	238.4	6.6
326	-1.013	-0.797	231.8	
023	-1.142	-1.471	217.8	-1.6
288	-0.996	-1.212	219.4	
024	-1.222	-1.431	220.5	2.5
333	-1.124	-1.438	218.0	
032	-0.791	-0.709	228.1	5.6
328	-0.674	-0.735	222.5	
033	-0.305	-0.485	212.2	-8.9
323	-0.374	-0.429	221.1	
035	-1.391	-1.689	215.5	3.1
331	-1.173	-1.849	212.4	
037	0.840	0.515	58.5	16.6
302	0.520	0.579	41.9	

Table 4.7 (continued)

ITEM	SUBMISSION-DOMINANCE	HATE-LOVE	ANGLE	DIFFERENCE
038	0.031	-0.767	177.7	1.7
311	0.045	-0.649	176.0	
305	-1.182	-1.093	227.2	2.7
366	-1.018	-1.035	224.5	
317	-0.088	0.491	349.8	49.1
362	-0.529	0.314	300.7	

Table 4.8

Frequency Distribution for Submission-Dominance and

Hate-Love Dimension By First 50 and Last 50 Presentation

		SUBMISSION - DOMINANCE									HATE - LOVE								
ITEM	GROUP	-4	-3	-2	-1	0	+1	+2	+3	+4	-4	-3	-2	-1	0	+1	+2	+3	+4
001	First 50	2	3	2	7	21	35	32	10	2	1	2	2	10	24	35	37	1	2
	Last 50	2	2	2	6	48	25	20	7	1	2	4	4	2	26	38	29	8	0
002	First 50	0	1	2	4	21	28	29	20	9	2	0	1	1	15	24	38	26	7
	Last 50	0	1	1	0	33	35	28	8	7	1	0	0	1	26	37	33	12	3
003	First 50	1	1	2	3	29	31	29	16	2	1	1	2	5	15	20	40	24	6
	Last 50	0	1	3	3	29	35	29	10	3	1	0	3	3	25	37	28	13	3
004	First 50	2	6	17	28	20	25	13	2	1	4	4	4	10	33	33	20	4	2
	Last 50	2	3	11	20	41	21	9	6	0	0	2	3	8	26	43	25	6	0
005	First 50	3	5	18	27	27	19	11	2	2	2	11	12	35	33	11	5	4	1
	Last 50	2	7	12	26	41	10	8	6	1	2	5	11	27	41	16	6	3	2
006	First 50	1	0	3	7	17	38	36	9	3	2	11	11	16	14	26	28	5	1
	Last 50	1	3	4	6	29	30	29	9	2	1	3	8	15	24	26	26	8	2
007	First 50	1	4	6	11	42	30	13	5	2	2	2	4	4	40	38	20	4	0
	Last 50	0	1	2	5	57	25	21	2	0	0	3	2	7	49	26	19	6	1
008	First 50	0	1	3	2	18	21	37	23	9	1	0	1	2	9	25	33	32	11
	Last 50	0	1	1	5	24	26	36	16	4	0	1	1	2	14	28	40	21	6
009	First 50	1	1	3	12	23	20	24	23	7	0	0	1	13	31	23	23	16	7
	Last 50	0	1	2	8	31	33	23	11	4	0	0	3	6	29	29	26	13	7
010	First 50	6	18	26	29	21	8	6	0	0	4	10	23	30	32	11	2	2	0
	Last 50	1	5	22	44	31	6	3	1	0	2	8	16	39	34	9	5	0	0
011	First 50	2	13	15	18	22	21	14	9	0	1	5	7	16	43	24	12	4	2
	Last 50	1	4	13	16	39	21	13	6	0	0	4	6	10	52	21	14	5	1
012	First 50	0	1	4	5	22	31	33	14	4	0	2	1	8	24	24	38	13	4
	Last 50	1	2	2	4	24	43	21	14	2	1	0	5	3	14	36	34	16	4
013	First 50	5	8	18	16	16	14	21	13	3	4	17	30	22	19	7	8	7	0
	Last 50	0	3	14	24	25	22	12	11	2	1	8	23	28	30	12	5	6	0

Table 4.8 (continued)

		SUBMISSION - DOMINANCE									HATE - LOVE								
ITEM	GROUP	-4	-3	-2	-1	0	+1	+2	+3	+4	-4	-3	-2	-1	0	+1	+2	+3	+4
014	First 50	6	14	26	25	28	5	6	3	1	9	24	23	19	37	1	1	0	0
	Last 50	2	7	17	24	50	4	7	2	0	6	5	18	25	52	4	2	1	0
015	First 50	2	16	28	31	17	12	3	4	1	2	22	35	29	13	8	2	2	1
	Last 50	1	6	25	33	25	13	6	3	1	3	15	24	26	34	8	1	1	1
016	First 50	9	28	21	12	17	7	11	6	3	17	35	23	13	16	6	3	1	0
	Last 50	12	30	20	16	15	6	9	4	1	13	31	31	11	18	5	2	2	0
017	First 50	3	3	1	3	30	17	33	14	10	2	1	1	3	9	15	28	39	16
	Last 50	2	2	3	3	35	13	24	20	11	0	1	1	2	12	15	31	34	17
018	First 50	3	3	7	18	45	18	14	4	2	7	3	8	20	44	17	8	6	1
	Last 50	2	1	6	12	52	20	14	4	2	1	4	9	5	58	17	3	3	3
019	First 50	2	5	13	5	24	27	24	10	4	3	4	18	23	27	19	10	8	2
	Last 50	0	2	9	9	22	29	27	10	5	2	4	10	24	31	19	18	4	1
020	First 50	0	0	1	8	34	22	31	12	6	2	0	2	4	29	28	27	13	9
	Last 50	0	1	4	5	42	23	29	7	2	0	1	2	3	36	28	34	7	2
021	First 50	1	9	18	20	20	19	17	8	2	3	12	29	21	19	13	8	6	3
	Last 50	1	7	9	13	25	29	21	7	1	1	9	29	19	26	13	8	6	2
022	First 50	7	14	30	20	19	13	9	2	0	4	5	23	29	28	9	6	10	0
	Last 50	5	11	28	27	26	7	3	5	1	3	9	29	16	37	8	8	2	1
023	First 50	7	26	32	21	18	2	7	0	1	13	24	32	23	19	1	1	0	1
	Last 50	2	7	24	26	46	3	2	3	0	8	10	29	17	43	5	1	0	0
024	First 50	11	23	35	16	15	6	3	5	0	7	24	35	23	12	5	5	1	2
	Last 50	3	15	32	19	25	5	10	4	0	5	21	34	25	16	3	9	0	0
025	First 50	4	3	5	10	26	31	23	10	2	7	2	1	2	23	30	38	8	3
	Last 50	0	2	3	4	32	36	19	12	5	2	1	3	5	14	36	32	14	6
026	First 50	4	6	21	25	17	20	10	7	4	2	3	5	33	39	18	6	4	4
	Last 50	2	9	23	20	28	13	13	4	1	0	4	8	24	43	19	9	5	1
027	First 50	18	24	24	16	16	9	2	2	3	22	24	23	18	20	4	1	0	2
	Last 50	17	25	21	11	26	6	6	1	0	11	26	24	21	28	2	0	0	1
028	First 50	2	5	11	13	17	13	28	15	10	10	27	30	14	16	10	3	3	1
	Last 50	0	5	4	6	13	29	22	27	7	7	18	41	12	15	11	7	1	1

Table 4.8 (continued)

		SUBMISSION - DOMINANCE									HATE - LOVE								
ITEM	GROUP	-4	-3	-2	-1	0	+1	+2	+3	+4	-4	-3	-2	-1	0	+1	+2	+3	+4
029	First 50	6	18	22	28	22	8	6	3	1	9	13	31	31	22	4	3	0	1
	Last 50	1	5	22	25	45	8	4	3	0	6	6	21	25	43	6	3	2	1
030	First 50	1	1	7	20	25	28	15	4	3	1	5	16	40	22	11	10	6	3
	Last 50	0	2	6	15	26	35	21	6	2	3	4	14	35	28	21	4	2	2
031	First 50	6	12	28	25	27	10	4	0	2	6	25	34	34	19	4	0	0	2
	Last 50	3	4	21	32	38	7	5	2	1	4	13	21	25	41	4	3	2	0
032	First 50	4	13	25	30	24	13	4	0	1	2	7	15	38	35	9	4	3	1
	Last 50	1	2	25	32	35	14	3	0	1	3	5	22	36	38	6	2	1	0
033	First 50	3	4	20	24	37	11	8	5	2	2	6	15	27	40	9	8	5	2
	Last 50	1	7	17	15	45	15	11	2	0	3	9	18	21	46	12	3	1	0
034	First 50	4	10	20	25	40	6	7	2	0	4	10	19	36	34	3	4	3	1
	Last 50	1	5	20	27	50	5	3	2	0	2	8	19	28	47	5	3	0	1
035	First 50	18	21	26	15	14	8	7	4	1	14	32	33	12	12	2	6	2	1
	Last 50	13	22	27	11	20	8	10	2	0	8	28	29	15	24	4	4	1	0
036	First 50	1	4	6	9	33	21	18	21	1	3	1	3	12	35	30	17	9	4
	Last 50	1	2	2	8	31	34	24	10	1	2	0	6	12	38	28	20	7	0
037	First 50	1	2	4	3	42	23	17	12	10	4	0	3	14	47	14	14	14	4
	Last 50	1	1	6	7	44	22	17	13	2	1	2	4	13	50	16	16	8	3
038	First 50	3	8	8	26	27	25	14	2	1	10	7	17	32	33	8	2	5	0
	Last 50	1	6	9	17	29	29	17	4	1	4	8	12	39	33	8	7	1	1
039	First 50	5	4	12	17	5	19	33	12	7	10	24	34	16	9	9	7	3	2
	Last 50	0	5	8	9	18	17	27	23	6	6	18	31	24	14	14	3	2	1
040	First 50	2	14	28	26	17	19	8	0	0	3	2	12	18	34	25	15	3	2
	Last 50	2	14	16	32	23	14	6	5	1	0	2	13	11	35	25	19	6	2
041	First 50	3	24	32	25	14	11	2	3	0	8	12	16	43	21	5	8	1	0
	Last 50	5	13	35	25	15	9	5	3	3	2	10	22	26	33	8	8	2	2
042	First 50	5	12	15	23	19	19	9	11	1	1	13	27	38	23	6	4	1	1
	Last 50	1	8	15	22	33	15	13	5	1	3	15	23	32	26	9	3	2	0
043	First 50	6	14	19	32	29	7	6	1	0	9	17	35	29	16	4	4	0	0
	Last 50	2	12	23	26	30	11	7	1	1	3	15	27	29	32	5	2	0	0

Table 4.8 (continued)

		SUBMISSION - DOMINANCE									HATE - LOVE								
ITEM	GROUP	-4	-3	-2	-1	0	+1	+2	+3	+4	-4	-3	-2	-1	0	+1	+2	+3	+4
044	First 50	11	10	29	22	25	14	2	1	0	9	25	35	22	16	4	2	0	1
	Last 50	4	12	22	24	39	6	4	1	1	6	17	26	18	41	2	3	0	0
045	First 50	3	3	13	20	28	23	16	7	1	3	10	22	34	30	6	6	3	0
	Last 50	1	6	12	23	25	24	19	2	1	1	9	24	39	22	15	2	0	1
046	First 50	0	0	1	3	15	22	34	25	14	1	0	1	5	18	21	34	30	4
	Last 50	0	2	4	1	21	22	35	24	4	0	2	1	4	31	24	30	18	3
047	First 50	7	9	14	29	38	12	4	1	0	5	6	24	31	35	7	4	2	0
	Last 50	2	6	16	29	46	7	5	1	1	7	5	16	28	54	3	0	0	0
048	First 50	11	14	20	30	20	12	5	2	0	8	9	29	39	20	5	2	2	0
	Last 50	4	8	21	24	39	8	7	1	1	5	12	29	19	39	4	4	1	0
049	First 50	5	8	8	14	20	12	19	21	7	15	18	24	17	23	9	3	3	2
	Last 50	3	6	10	5	20	15	25	24	5	11	20	26	16	22	7	8	2	1
050	First 50	19	13	13	14	33	11	6	5	0	18	7	10	9	48	10	9	3	0
	Last 50	11	17	17	9	46	4	6	2	1	9	9	9	13	59	7	5	2	0

Table 4.9

50 MMPI Items on the Submission-Dominance and Hate-Love Dimensions with Dimensional Angles Listed 1st 50, then last 50

ITEM	DOM $\bar{x}$ 1st 50	DOM $\bar{x}$ LAST 50	LOV $\bar{x}$ 1st 50	LOV $\bar{x}$ LAST 50	DOM ANGLE	LOVE ANGLE	K-S
001	0.956	0.584	0.842	0.796	48.6	36.3	*
002	1.500	1.221	1.711	1.292	41.2	43.4	
003	1.149	1.088	1.579	1.159	36.0	43.2	**
004	-0.237	-0.018	0.412	0.805	330.1	358.7	
005	-0.307	-0.274	-0.553	-0.239	209.0	228.9	
006	1.158	0.850	0.193	0.584	80.5	55.5	
007	0.351	0.540	0.561	0.584	32.0	42.8	
008	1.658	1.345	1.956	1.664	40.3	39.0	
009	1.228	1.000	1.140	1.204	47.1	39.7	
010	-1.219	-0.814	-0.886	-0.743	234.0	227.6	
011	-0.167	0.062	0.167	0.301	315.0	11.6	
012	1.219	1.035	1.219	1.336	45.0	37.8	
013	0.096	0.230	-0.921	-0.549	174.0	157.3	
014	-0.991	-0.558	-1.491	-0.788	216.6	215.3	**
015	-0.956	-0.593	-1.325	-1.009	215.8	210.4	
016	-1.009	-1.363	-1.904	-1.796	207.9	217.2	
017	1.219	1.257	2.070	2.124	30.5	30.6	
018	0.114	0.292	-0.158	0.221	144.2	52.9	
019	0.588	0.885	-0.105	0.062	100.1	86.0	

Table 4.9 (continued)

ITEM	DOM $\bar{x}$ 1st 50	DOM $\bar{x}$ LAST 50	LOV $\bar{x}$ 1st 50	LOV $\bar{x}$ LAST 50	DOM ANGLE	LOVE ANGLE	K-S
020	1.175	0.832	1.237	1.018	43.5	39.3	
021	-0.018	0.354	-0.596	-0.469	181.7	143.0	
022	-0.991	-0.920	-0.482	-0.699	244.1	232.8	
023	-1.500	-0.770	-1.789	-1.150	220.0	214.8	***
024	-1.509	-0.912	-1.465	-1.372	225.8	213.6	
025	0.614	1.009	0.912	1.274	34.0	38.4	
026	-0.211	-0.407	-0.018	0.035	265.1	274.9	
027	-1.553	-1.549	-1.842	-1.637	220.1	223.4	
028	0.842	1.354	-1.456	-1.274	150.0	133.3	
029	-1.026	-0.558	-1.351	-0.770	217.2	215.9	**
030	0.535	0.619	-0.263	-0.389	116.2	122.2	
031	-1.009	-0.628	-1.395	-0.938	215.9	213.8	**
032	-0.965	-0.602	-0.588	-0.832	238.6	215.9	
033	-0.333	-0.274	-0.307	-0.664	227.3	202.4	
034	-0.746	-0.611	-0.842	-0.735	221.5	219.7	
035	-1.439	-1.319	-1.807	-1.540	218.5	220.6	
036	0.763	0.832	0.649	0.504	49.6	58.8	
037	0.982	0.681	0.561	0.469	60.3	55.4	
038	-0.132	0.195	-0.877	-0.655	188.6	163.4	
039	0.667	1.097	-1.368	-1.186	154.0	137.2	
040	-0.851	-0.611	0.105	0.407	277.0	303.7	
041	-1.307	-1.009	-1.044	-0.619	231.4	238.5	

Table 4.9 (continued)

ITEM	DOM $\bar{x}$ 1st 50	DOM $\bar{x}$ last 50	LOV $\bar{x}$ 1st 50	LOV $\bar{x}$ LAST 50	DOM ANGLE	LOVE ANGLE	K-S
042	-0.307	-0.177	-1.000	-1.009	197.1	190.0	
043	-1.000	-0.743	-1.526	-1.159	213.2	212.7	
044	-1.167	-0.876	-1.675	-1.212	214.9	215.9	
045	0.114	0.027	-0.816	-0.841	172.0	178.2	
046	1.895	1.460	1.614	1.221	49.6	50.1	
047	-0.781	-0.558	-0.842	-0.885	222.8	212.2	
048	-1.123	-0.681	-1.237	-1.044	222.2	213.1	
049	0.588	0.903	-1.289	-1.230	155.5	143.7	
050	-1.026	-0.991	-0.746	-0.628	234.0	237.6	

ment correlation between the angles of the first 50 items with the last 50 items was performed. The coefficient was r = 0.98. This finding shows a very high interrater reliability and suggests high consistency for the task of scaling the 50 items regardless of the position into which the items were placed. The angular difference mean for the 50 items was 4.0 degrees which compares with 6.8 degrees differences for the 16 duplicate items. The differences for the 50 items are fairly large, 10 are greater than 20 degrees. This may indicate ambiguity of these items and subsequently more unreliability.

It should be noted that 14 of the 16 duplicate items are within the first 50 items. The mean difference calculated for these 16 items is 13.2 degrees, an absolute mean close to the first 50 items of 12.6 degrees. Thus, the method of scaling the 50 items in different places may have had some slight affect.

Leary's MMPI Structure

One purpose of this study was to investigate Leary's theorized circular structure for the MMPI and the equal intervals between scales. Another area of investigation was comparing the results of this study with published factor loadings from another study. The following results are intended to empirically test Leary's suppositions and the comparative investigation with a relevant study.

Table 4.10 presents Leary's eight (8) MMPI scales in calculated angular order. The table also gives the scales sine, cosine, vector length, dispersion value and number of items in each scale (n). Table 4.11 is presented to compare Leary's suggested angles for the 8 MMPI

Table 4.10

8 MMPI Scales Selected by Leary

SCALE	$\sum$ SINE	$\sum$ COSINE	ANGLE	VECTOR LENGTH	VECTOR LN. / n	n
Dn(HyD)	0.46	11.92	2.22	11.93	0.46	26
Es	36.34	22.98	57.69	42.99	0.63	68
Ma	9.99	-4.56	114.54	10.99	0.24	46
F	-32.07	-41.12	217.95	52.15	0.81	64
Sc	-41.71	-52.43	218.50	66.99	0.86	78
Pt	-26.57	-26.26	225.33	37.36	0.78	48
D	-33.68	-25.89	232.44	42.48	0.71	60
K	-5.05	10.73	334.79	11.86	0.39	30

Table 4.11

Comparison of 8 Selected MMPI Scales

Empirical vs Leary

SCALE	EMPIRICAL ANGLE	LEARY'S ANGLE	DIFFERENCE	ROTATED LEARY ANGLE	DIFFERENCE
Es	57.69	80	-22.31	62.9	-5.2
Ma	114.54	125	-10.46	107.9	6.6
F	217.95	170	47.95	152.9	65.1
Sc	218.50	215	3.5	197.9	20.6
Pt	225.33	260	-34.67	242.9	-17.6
D	232.44	305	-72.56	287.9	-55.5
Dn	2.22	350	12.22	332.9	29.3
K	334.79	35	-60.21	17.9	-43.1

scales and the empirical angles from this study. This table provides the empirical angle, Leary's angle, the difference, the rotated angle and the rotated difference. Inspection reveals a range of differences between the angles from -72.56 degrees to 47.95 degrees with an average angular difference of -17.07 degrees. The angles of Leary's are then rotated using the initial average angular difference (-17.07) degree. The new rotated Leary angle and new difference were calculated. The new angular difference now ranges from -55.5 degrees to 65.1 degrees with an average angular difference of .025 degrees.

A graphic presentation of the previous rotation is presented in Figure 4.41. One observes in the inner ring Leary's suggested placement of the 8 MMPI scales rotated. The empirically calculated angles are shown on the outer ring. While the comparison of scales Es, Ma, Pt show somewhat of a reasonably close placement; scales F, Sc and D show considerable divergence. Scales K and D show a reversal in position between the two scales. There is then the suggestion that Leary's theorized circular order is confirmed for 6 MMPI scales with a reversal for 2 scales. The data indicate that the intervals between scales are not equal.

The circular structure of the MMPI has been shown and the comparison with Leary's MMPI structure has been provided. The next step in the analysis was a comparison of the previously provided data with the factor analytic study of the MMPI. Table 4.12 presents the unrotated factor leading from the Williams and Lawrence (1954) study. This initial solution produces 4 factors with eigenvalues greater than 1.0 and as concluded in Williams and Lawrence, they are the most fre-

Figure 4.41

Circular Plot of Empirical Scales (Outer Ring)

vs Leary's Rotated Scales (Inner Ring)

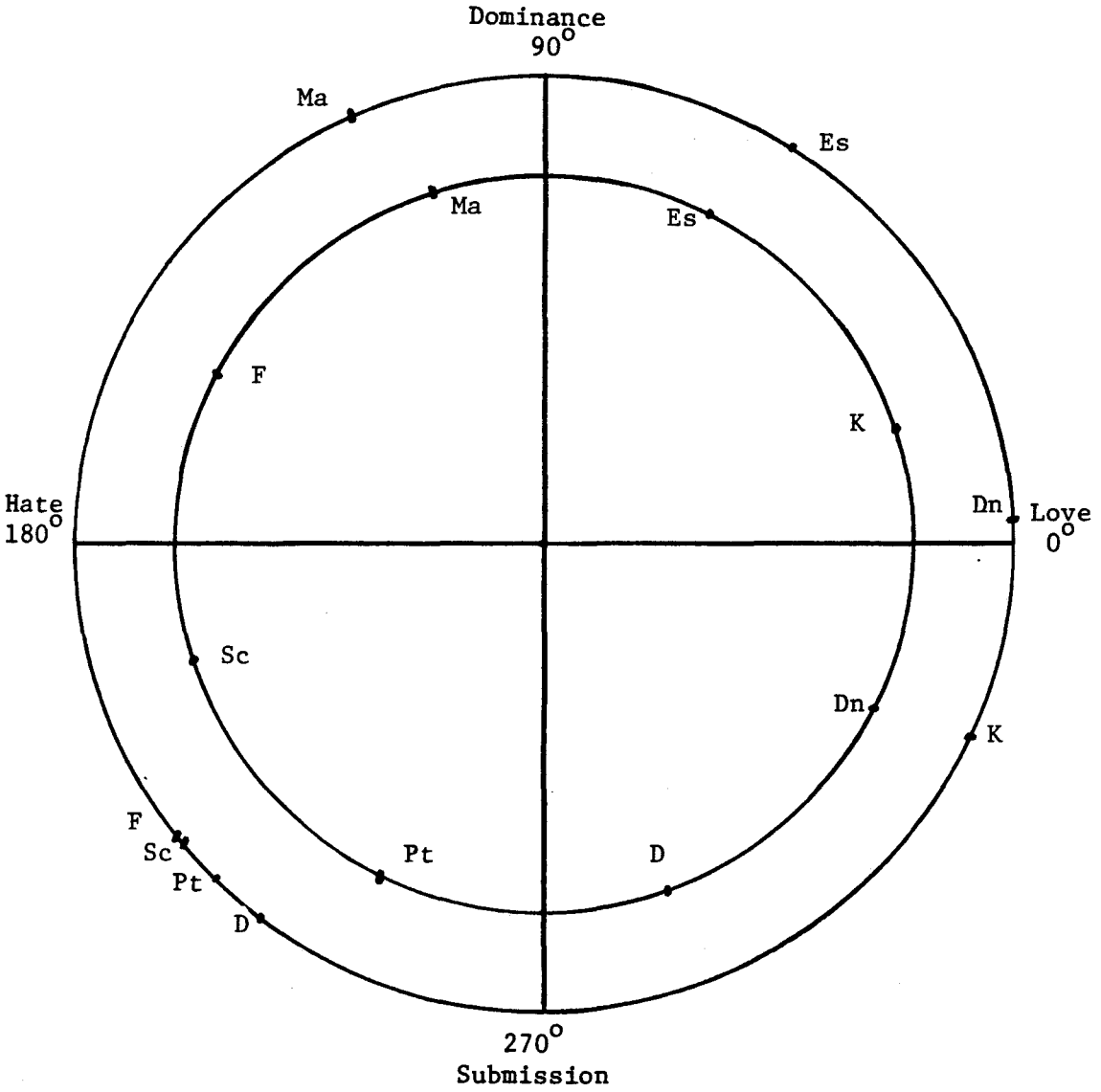


Table 4.12

Unrotated Factor Loadings from

Williams and Lawrence (1954)

SCALE	I	II	III	IV
L	-.15	.56	-.39	.65
F	.79	-.20	.11	.30
K	-.28	.39	.43	.09
Hs	.76	.38	-.07	-.36
D	.73	.41	.14	-.25
Hy	.50	.68	.02	-.34
Pd	.74	-.25	.59	.15
Pa	.81	-.01	.32	.23
Pt	.95	-.06	-.13	-.10
Sc	.96	-.14	.03	.07
Ma	.45	-.66	.02	.02
Es	-.81	-.10	.56	.06
A	.90	.00	-.27	.32
R	.01	.77	.30	.25

quently found 2 major (I & II) and 2 minor (III & IV) factors. We can interpret factors in terms of scales which show loadings with absolute values larger than .30, if those factors show loadings larger than this on more than 2 variables. Factor I is defined with Es at one end and Pt, Sc, and A at the other. Factor II is defined by R and Hy at one end and Ma at the other. Factors III and IV (minor factors) will not be used for further analysis.

The factor loadings were used as the angular coordinates. The coordinates were used to determine the polar coordinates. Table 4.13 presents results of the calculations for MMPI scales providing the scale, coordinates, angles and vector lengths. The data from Table 4.13 was used for comparison.

Table 4.14 provides the necessary comparison data. The scales are shown in circular order for the empirical calculation and the Williams and Lawrence data. The circular order is quite similar. The mean angular difference is -59.9 degrees. The rotated Williams and Lawrence angles were calculated, providing a new mean angular difference of -.04 degrees. Figure 4.42 shows the rotation results and the remarkable similarity between the empirical scales and the Williams and Lawrence factored scales. The factor plot confirms the order suggested by Leary and the previous finding of unequal intervals between the scales.

The comparison between Leary's angles and the Williams and Lawrence angles were now presented. Table 4.15 shows the 7 scales of Leary's that were also found in the Williams and Lawrence study. The unrotated angles are shown with a calculated mean angular difference

Table 4.13

Selected MMPI Scales from Williams & Lawrence (1954)

in Angular Order

SCALE	$\sum$ SINE	$\sum$ COSINE	ANGLE	VECTOR LENGTH
L	.153	.556	15.386	.577
K	.278	.392	35.344	.481
Es	.809	-.100	97.047	.815
Ma	-.447	-.662	214.028	.799
Pd	-.737	-.233	252.456	.773
F	-.794	-.196	256.134	.818
Sc	-.965	-.142	261.629	.975
Pt	-.948	-.065	266.078	.950
Pa	-.813	-.009	269.366	.813
A	-.904	.004	270.254	.904
Hs	-.763	.383	296.655	.854
D	-.730	.408	299.201	.836
Hy	-.502	.678	323.483	.844
R	-.012	.769	359.106	.769

Table 4.14

19 Scales Compared - Angular Order for

Empirical vs Williams & Lawrence

SCALE	EMPIRICAL ANGLE	W & L ANGLE	DIFFERENCE	ROTATED W & L ANGLE	DIFFERENCE
Es	57.7	97.0	-39.3	37.1	20.6
Ma	114.5	214.0	-99.5	154.1	-39.6
Pd	205.6	252.5	-46.9	192.6	13.0
F	217.9	256.1	-38.2	196.2	21.7
Sc	218.5	261.6	-43.1	201.7	16.8
Pt	225.3	266.1	-40.8	206.2	19.1
Hs	230.4	296.7	-66.3	236.8	-6.4
A	231.1	270.3	-39.2	210.4	20.7
D	232.4	299.2	-66.8	239.3	-6.9
Pa	237.5	269.4	-31.9	209.5	28.0
R	240.5	359.1	-118.6	229.2	-58.7
Hy	243.6	323.5	-79.9	263.6	-20.0
L	307.3	15.4	-68.1	315.5	-8.2
K	334.8	35.3	-60.5	335.4	-.6

Figure 4.42

Circular Plot of Empirical Scales (Outer Ring)

vs Williams and Lawrence Rotated Scales (Inner Ring)

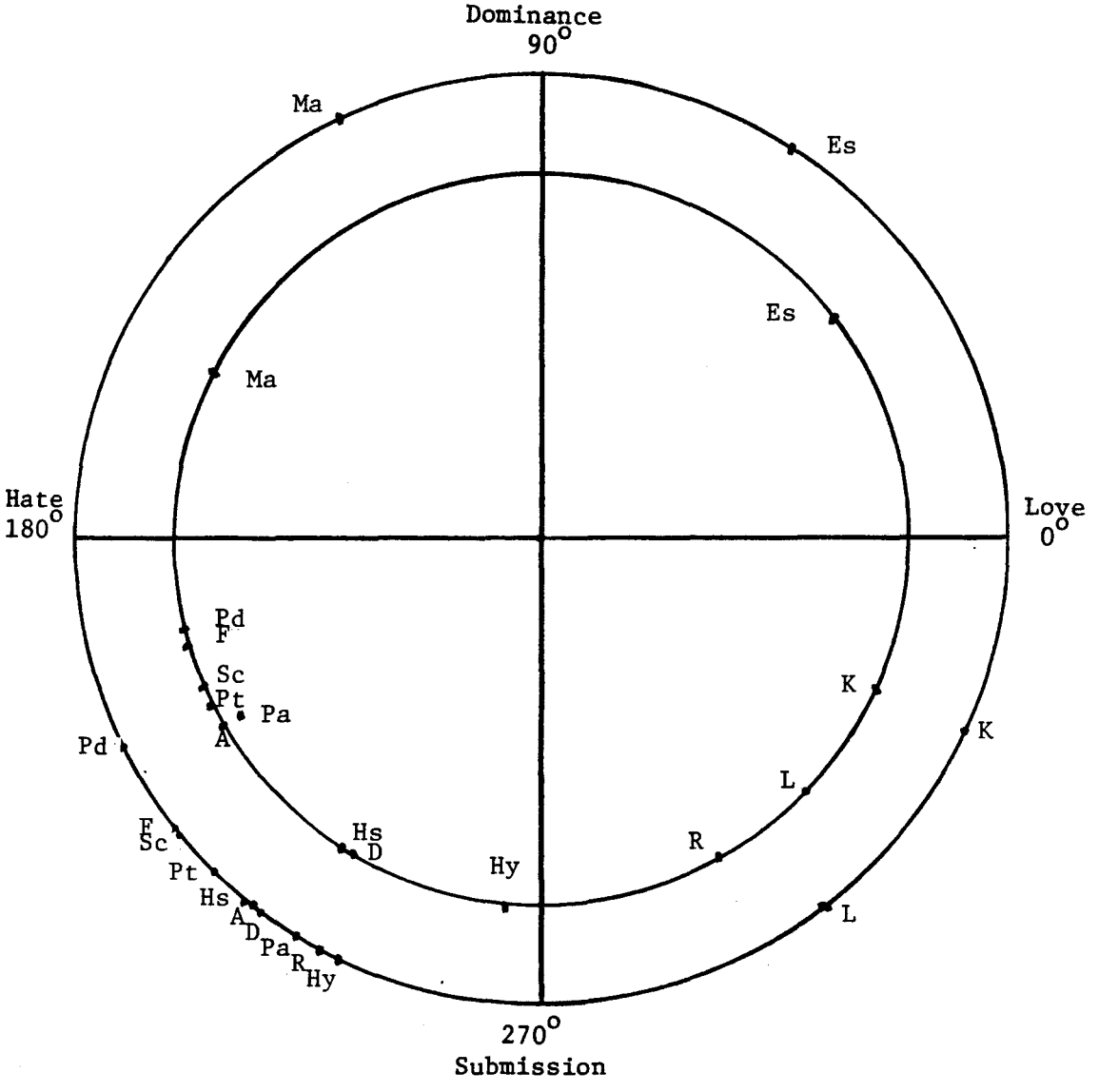


Table 4.15

7 MMPI Scales - Unrotated

Williams & Lawrence vs Leary

in Angular Order

SCALE	WILLIAMS & LAWRENCE ANGLE	LEARY ANGLE	DIFFERENCE
Es	97.0	80	17.0
Ma	214.0	125	89.0
F	256.0	170	86.0
Sc	262.0	215	47.0
Pt	266.0	260	6.0
D	299.0	305	6.0
K	35.0	35	0.0

of 35.9 degrees. The Leary angles are then rotated and the results shown. Figure 4.43 graphically presents the unrotated angles. The K, Es, Pt and D scales show remarkable angular similarity with the Ma, F and Sc scales showing much greater differences.

The comparison of the rotated Leary angles with the rotated Williams and Lawrence angles is shown in Figure 4.44. The circular structure was maintained and the scale placements indicate that the equal intervals between scales was again not demonstrated.

Figure 4.43

Circular Plot of Unrotated Williams and Lawrence Scales (Inner Ring) vs Unrotated Leary Scales (outer Ring)

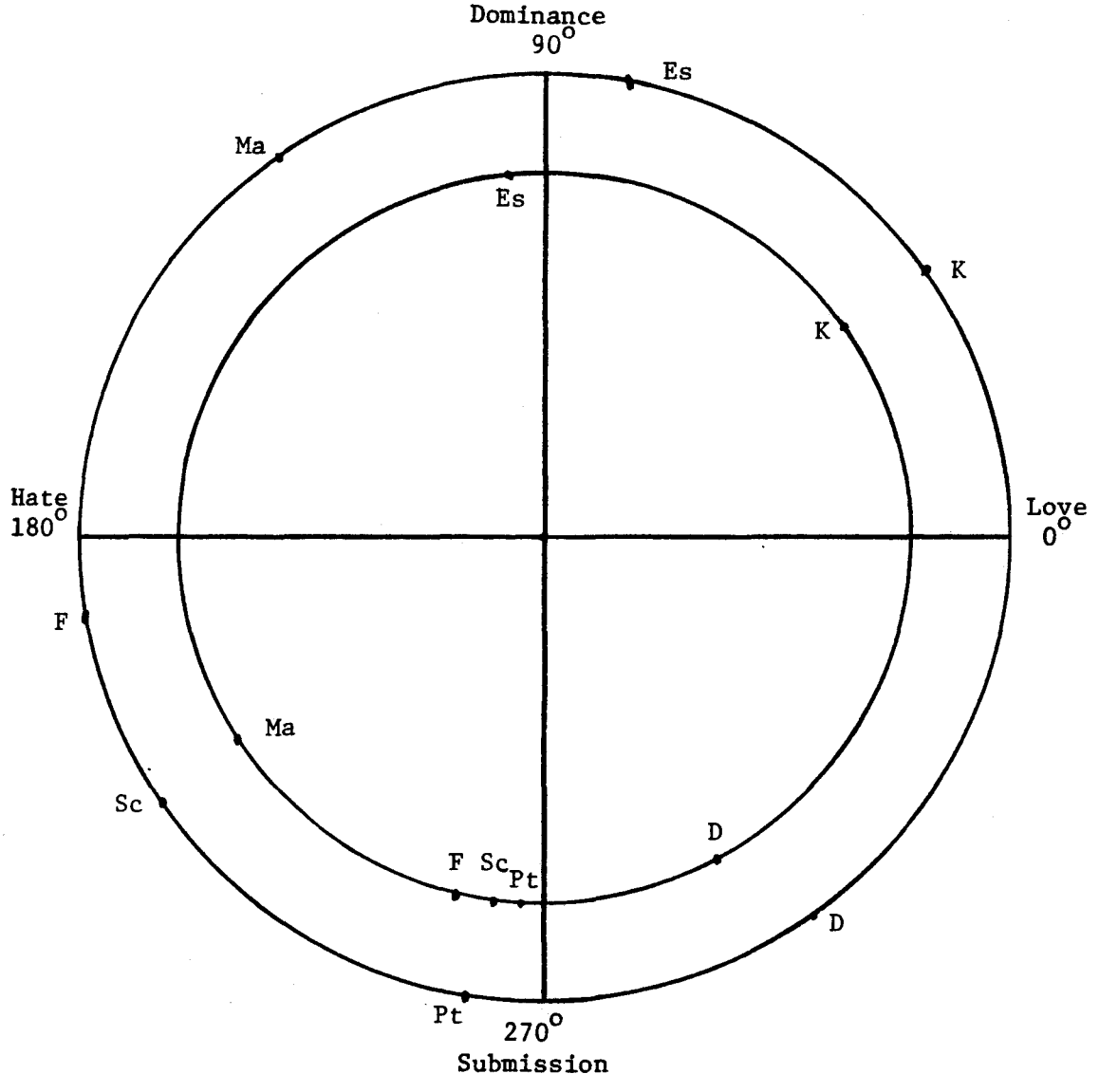
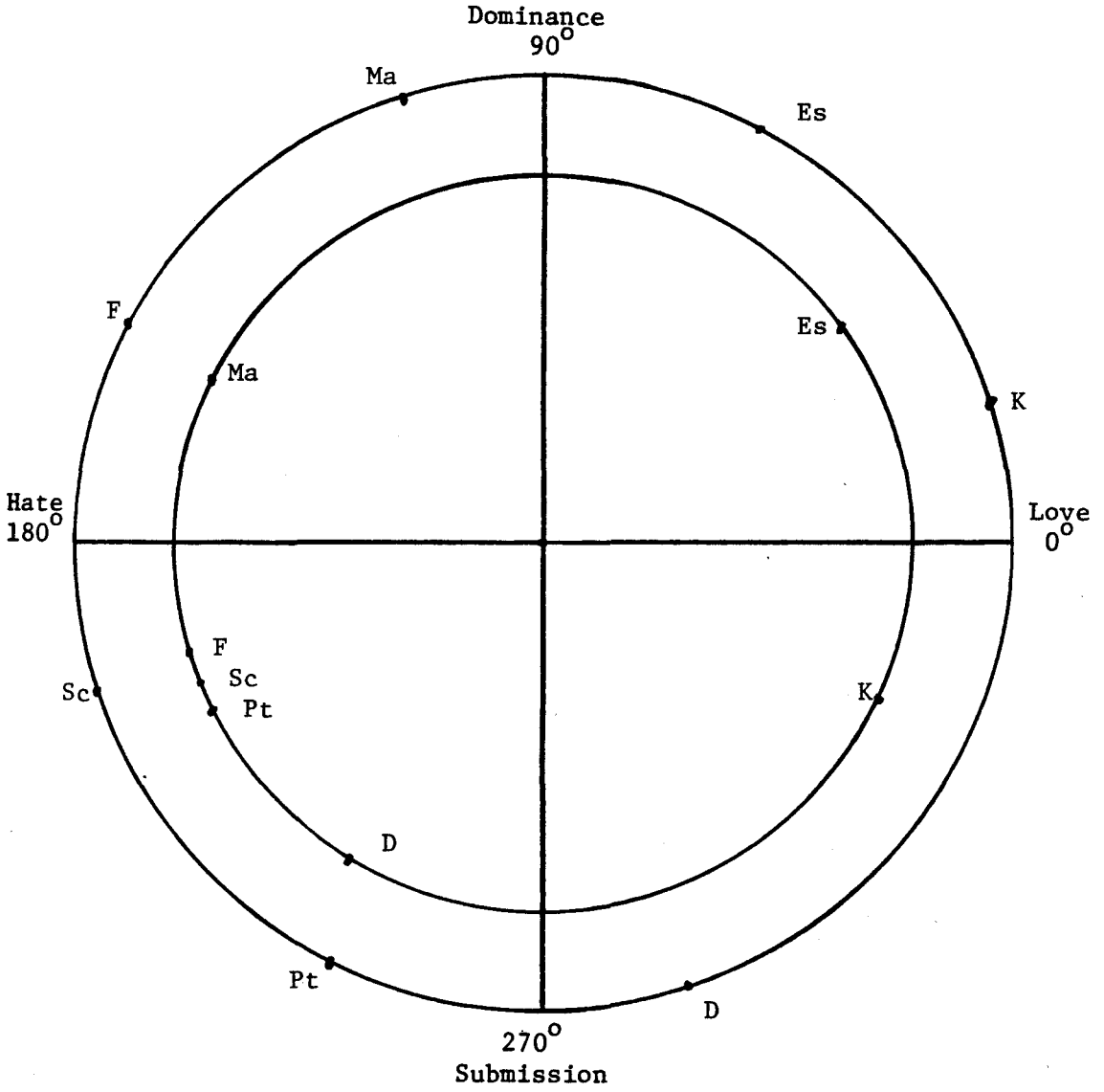


Figure 4.44

Circular Plot of Leary's Rotated Scales (Outer Ring) vs Williams and Lawrence Rotated Scales (Inner Ring)



CHAPTER V

DISCUSSION

This chapter presents the overall conclusions of this study and discusses possible implications. The findings from this study are summarized and systematically discussed. Finally, suggestions for future research and implications for personality assessment are provided.

The primary purpose of this study was to investigate a circular scaling procedure on the 566 items from the Minnesota Multiphasic Personality Inventory (MMPI). In addition, the study examined the validity of Leary's (1957) contention that 8 of the scales from the MMPI could be used to index the eight intervals of a circular continuum which had been found to hold true for interpersonal traits (Leary, 1957; Stern, 1970; Wiggins, 1979, 1980; McCormick & Kavanagh, 1981). This study attempted to scale the items to Leary's two-dimensional system by scaling each of the 566 MMPI items on two separate bipolar nine point scales (Submission-Dominance and Hate-Love). The circular scaling procedure was suggested by Schlosberg (1941) and discussed by McCormick & Kavanagh (1981) on the items of the Interpersonal Checklist (LaForge & Suczek, 1955). The items were then located on the circular continuum by using the means of the scaling distributions as the rectangular coordinates from which polar coordinates were calculated. The

procedure seemed feasible for use with the MMPI, for it is widely accepted to be basically a two-dimensional inventory (Hathaway & McKinley, 1970; Kassebaum, Couch & Slater, 1959). The circular nature of the MMPI has been pointed out by Guttman (1957) and Schaefer (1961).

The findings from this study suggested the following:

1. Participants performed their scaling tasks in a non-random manner.

2. Differences between males and females on the scaling of items (MMPI) was at the chance level.

3. Only a few items were "not scalable" by this method and these participants.

4. Circular scaling of the MMPI items allowed coverage around the circle.

5. 19 selected MMPI scales distributed around the circle.

6. Items which compose the selected scales varied in their distribution around the circle.

7. Differences between the 16 duplicate MMPI items were small.

8. Interrater reliability appeared high.

9. Leary's theorized circular structure for selected MMPI scales was confirmed.

10. Leary's suggested equal intervals between the selected MMPI scales was not demonstrated.

11. Plotted angular comparisons between the present study's calculated scale angles with Leary's calculated scale angles demonstrated similarities.

12. Plotted angular comparisons between the present study's calculated scale angles with Williams and Lawrence calculated scale angles demonstrated similiarities.

13. Plotted angular comparisons between calculated Leary and Williams and Lawrence scales demonstrated similiarities.

In general, the results of this study support Leary's model for the selected (8) MMPI scales. However, the newness of the method used

requires a somewhat detailed discussion of several aspects of the results which seem to have interesting implications. In addition, this study examined the relationship of the circular method used to plot the scales to a typical factor analytic study of the MMPI scales (Williams and Lawrence, 1954). The convergence of these two independently obtained empirical sets of data (that is, the collected data of this study and the factor analytic study) to the same model provides further evidence suggesting the validity of the circular method used.

The first concern focused on the issue of whether or not the scaling distributions obtained seemed to be reasonable ones. That is, if the two bipolar scales were not generally applicable to the items, or if the items were ambiguous relative to the two scales, the expectations would be to find the distributions to approximate the uniform or random distribution rather than the more or less normal distributions as usually found.

The confidence that can be placed in any empirical investigation rests on the validity of the data collection. In the present study, this is reflected in the confidence that can be placed in the scaling procedure. An evaluation of the subject's ability to successfully scale the items as instructed was needed. This was accomplished by investigating the randomness of the distributions. The Kolmogorov-Smirnov one-sample test was utilized to assess the subject's comprehension of the scaling task. Non-significance on the Kolmogorov-Smirnov one-sample test indicates that the distribution was not responded to randomly by the subjects. That is, if the distribution of responses is uniform, subjects were likely scaling on a random basis and therefore, a "con-

fusion factor" may be present within the data. The results of the Kolmogorov-Smirnov one-sample test for goodness-of-fit to the normal curve indicate that no distributions showed non-significance (p .01). The conclusion that can be drawn, in this instance was that, the participants in this study who scaled the 566 MMPI items according to the instructions did perform their task as instructed. These results were supported by the non-random distributions.

Another limitation considered when placing confidence in these data were differences that may exist between groups. In the present study, participants were grouped according to male or female. A determination as to any sex differences was therefore, important. The Kolmogorov-Smirnov two-sample test was utilized to determine any differences between males and females on the frequency of response on the nine point scale for the Submission-Dominance and Hate-Love dimensions. The point to be made was that distributions which exhibit a statistically significant differences between sexes should not be used because the data for that item was distorted and would require separate analyses. However, only two items were identified as exhibiting sex differences on the Submission-Dominance dimension. These were:

74. I have often wished I were a girl. (OR if you are a girl) I have never been sorry that I am a girl.

349. I have strange and peculiar thoughts.

The frequency distributions for item 74 shows the sex differences.

74.	M	7	8	24	19	25	14	8	2	3 $\bar{x}$ = -.6455
	F	3	5	6	13	17	15	21	21	11 $\bar{x}$ = 1.0689

The males scaled the first part as that of "wishing to be a girl" as submissive. While the females responded to the second part "about nev-

er being sorry about being a girl" as dominant. The use of the term girl may have caused as many neutral females as it did. The sex difference seems reasonable.

Item 349 which also exhibited sex differences had the following frequency distributions:

349.	M	2	3	16	19	39	19	9	1	1 $\bar{x}$ = .2202
	F	3	10	21	36	30	12	3	1	0 $\bar{x}$ = -.8534

Only speculation may suggest why the sexes differed on this item. Perhaps the males saw strange and peculiar thoughts as neutral because it is different than the "normal", (i.e., less status quo). While female respondents considered this same idea as submissive because strange and peculiar thoughts are not acceptable and may show weakness. For these or other reasons sex differences did occur on this item.

On the Hate-Love dimension more items (15) were identifed. Only item 74 appeared as exhibiting sex differences on both dimensions. Inspection of the Kolmogorov-Smirnov value indicated that for the 15 items on this dimension there were clearly sex differences with each sex taking the opposite position.

Items 80, 218, 223 and 393 were related to animals and their treatment.

80. I sometimes tease animals.

218. It does not bother me particularly to see animals suffer.

223. I very much like hunting.

393. Horses that don't pull should be beaten or kicked.

Stereotypical attitudes between males and females on animal treatment may be responsible for these differences. In addition, items 16, 104,

110, 363, 396 and 413 appeared to be related to with ones self-regard and how one responds to adversity. Typical attitudes perpetuated by the sexes in how one views life and our place in it may explain the sex differences.

More items showed sex differences on the Hate-Love dimension (15) versus the Submission-Dominance (2) dimension. However, the total percentage of items exhibiting significant differences by sex to the total number of items was small. Only 2.6 percent of the items showed sex differences on the Hate-Love dimension and .36 percent on the Submission-Dominance dimension. We would have expected to obtain about 5% by change alone given the large number of significance tests used.

The preceding commentary was an attempt to explain the sex differences. A cross-validation study may determine that the differences exhibited in this study were primarily the result of this particular group of participants and may be an artifact due to the large number (2264) of significance tests performed. That is, the sex differences may be eliminated or show up on other items in a different group. Thus, further analyses of the data used the total distributions of the males and females combined.

The frequency distributions, the resulting means and standard deviations can provide one more important piece of information. Individual items may not be scalable on the two dimensions which are the primary focus of the present study. That is, respondents may place items as being neutral in content on one or the other dimension or both. An item "not scalable" or undefined on both dimensions results in that item not being placed anywhere on the circle made up of the two dimen-

sions. This result indicates that these items have no relevance for our circular scaling and must be omitted.

The means were tested for significance (p .01) by the use of t-tests. The t-test statistic determined that, if the significance level was not .01 or smaller, the item had a mean equal to zero (undefined) on that dimension. The t-tests determined 81 items as undefined on the Submission-Dominance and 79 items on the Hate-Love dimensions.

We would of course expect some items to refer only to one of the two dimensions. More important are those judged as neutral on both dimensions. Further analysis focused on the 24 items which demonstrated a double zero mean. That is, a zero mean (undefined) on the Submission-Dominance and the Hate-Love dimension. Inspection of the wording content of these items reveals why they would be positioned as neutral on the Submission-Dominance and Hate-Love dimension.

As an example, item 18 ("I am very seldom troubled by constipation") seemed difficult to position on the two dimensions. Items 70 ("I used to like drop-the-handkerchief"); 130 ("I have never vomited blood or coughed up blood"); 279 ("I drink an unusually large amount of water everyday"); and 545 ("Sometimes I have the same dream over and over") are examples of items placed as neutral by the participants in this study. It can be suggested that the double zero scaling by this group was unique and that another group may respond differently. As has been stated previously, these items do appear neutral on the present two dimensions, however, they may be scalable on other bipolar dimensions. The double zero items account for only 4.3 percent of the total number of MMPI items. This small percentage of double zero items

provides additional support to the suggestion that the participants in this study attended to the task as instructed. It can be concluded from the present discussion that the MMPI items do seem to be scalable on the Submission-Dominance and Hate-Love dimensions.

Another important methodological concern was with the reliability of the scaling results. The MMPI consists of 16 items which are presented twice at varying distances from each other in the item set. These provide an opportunity to estimate the reliability of the scaling data.

As stated previously, the MMPI has 16 items which are duplicates of items dispersed throughout the inventory. The means on each dimension were used to calculate the angle for each item. The angular differences were computed and an average calculated. The mean angular difference was 6.8 degrees. A Spearman rank-order correlation was calculated for these items and was found to be 0.94.

The rather large number of judgements required of each subject suggested the possibility of some kind of "fatigue effect." That is, participants would become physically tired at some point in the 3-4 hour task. The participants' fatigue could have affected the results. Scaling each item twice required a total of 1132 judgements. A control procedure for this potential problem was provided by administering the first 50 items in regular order to half the subjects (half males and half females) and at the end of the list for the others.

Interrater reliability was determined by comparing the average anglar difference and the correlation between the first fifty items. The items 1...50 were presented first for half the males and females and

last for the others. The mean angular difference was calculated as 4.0 degrees with a correlation between items of 0.98. The conclusions drawn from these analyses was that interrater reliability was high for these respondents and that the duplicate items showed little inconsistency in responses.

The item means were used to calculate the polar coordinates for each of the items relative to the frame of reference provided by using the two bipolar scales as the axes of a Cartesian coordinate system (see Table 4.2). The major concern was simply with the circular locations of the items and so further analyses focused on the angular values so obtained. The vector lengths would seem to represent some kind of estimate of the intensity of the items. However, this aspect of the scaling would require further investigation and so the vector length data was not used further in this study. In effect, the item vectors were normalized to the unit circle and thus their rectanglar coordinates become the sines and cosines shown in Table C4.1 rather than the means. Examination of the item placements was of some interest. In order to facilitate comprehension, a plot of the items circular locations was presented in Figure 4.1. As can be seen in the figure most of the items scaled into Quadrants I and III. About 80% are located in these two bipolar quadrants with each containing about equal numbers of items. This was of some interest because such a result implies that most of the variance in the MMPI item pool can be accounted for by one large factor. In fact, Block (1965) has determined that about 70% of the MMPI items are related to the large first factor consistently found in factor analysis studies of the MMPI. The convergence of such independent studies

helps supply confidence for the validity of the results reported here.

These results are comparable to a study conducted by Thomas (1981) using self-esteem inventories. Thomas also found little coverage with items from four self-esteeem inventories in Quadrant IV. These studies suggest that perhaps the developers of future inventories would do well to focus on complete and systematic coverage of the circular continuum. The overall conclusion was that the circular scaling technique can be utilized to scale the items from the MMPI around the circle composed of the Submission-Dominance and Hate-Love dimensions.

Such dense packing of so many items of the total item pool would seem to have several important implications. First, we would expect that when many scales are developed from such an item pool many of them should exhibit considerable overlap of common items. In fact, this was what happened in the construction of many of the MMPI scales which was considered by many investigators to be a rather serious problem in the use of the MMPI (Dahlstrom & Welsh, 1975).

A more subtle issue was that we could expect even more overlap in meaning between the items of the various scales formed from the Quadrant I and III items. That is, even though the items might seem to differ in substance, they in fact, exhibited considerable synonymity among themselves. This leads to the suggestion that based on familiarty with the interpersonal circle, further study will show that only about two to four reasonable discriminable bipolar scales can be formed from the items located in these two quadrants rather than the couple hundred scales which have been formed (Dahlstrom & Welsh, 1975). These results imply that almost all of these scales are simply redundant measures of

the same interpersonal traits and differ only in the items which were sampled. These results seem to be consistent at the scale level of analysis, as will be seen.

The MMPI items were then combined into 19 selected scales from studies by Leary (1957) and Williams and Lawrence (1954). The scale locations were given by the item resultants calculated from the sums of the sines and cosines for each scale's set of items. These scales are used later for comparison purposes. Figure 4.2 graphically displays the scale coverage around the circle. The Dn, So, Es scales can be found in Quadrant I the Ma scale in Quadrant II, the Pd, F, Sc, Pt, Si, Hs, A, D, Pa, R and Hy scales in Quadrant III. Quadrant IV contains the remaining Mf-m, Mf-f and K scales. All the scales seem to be well placed in accord with their usual clinical use and interpretation. For example, the Es Scale (Ego Strength) appears in Quadrant I, the Dominance-Love combination. The Es Scale appears closer to the Dominance side, and is negatively correlated with the basic scales in the standard profile, except with the K scale. The Es Scale is a measure of those personality assets and resources which enables an individual to adapt to life's stresses and to profit from support and psychological insight (Dahlstrom & Welch, 1975). Therefore, its positioning closer to the Dominance side but in combination with Love appears consistent with this interpretation. The Mf Scale appears in the Submission-Love combination for Quadrant IV. The Mf Scale is a measure of male sexual inversion. Typical inhibition and conflicts make overt expression of sexual preferences difficult for people with this personality pattern. The feminism of these males appears in values, attitudes, interest and

styles of expression and speech. Once again, a Submission-Love combination appears appropriate for this interpretation.

Another interesting aspect to note in Figure 4.2 was the unequal intervals between the scale placements. However, the scale placements appear to reflect the scale correlations reported by Dahlstrom & Welsh (1975). For example, the Pt and Sc scales correlate about .85 and appear within 12 degrees of each other on the circle. The overlap in meaning between these scales seems to be high and their proximity to each other was remarkably close. Other examples include, Si and Pt which correlate around .72 and were placed within 6 degrees of each other on the circle. The Hs and D scales correlate around .60 and place within 2 degrees on the circle. The Sc and K scales correlate around -.62 and appear 119 degrees apart on the circle. The Pt and K scales correlate around -.70 and were placed 110 degrees apart.

The placement of items for each of the 19 selected scales (see Figures 4.3 to 4.21) provided some valuable information. The plots of the items showed the lack of circular homogeneity for most of the scales.That is, a failure of the items to locate within fairly small arcs on the circle. The exceptions were the Hs and A scales. The Hs scale shows clustering of items with opposite scoring directions approximately 180 degrees apart. The A scale shows item clusters within a 45 degree arc but with three outlaying items.

Other scales appear with most of the items rather densely packed into arcs of 40 degrees or less. The F, Sc, Pt, Si, D, Pa, R and Hy scales display these packs with clusters of opposite scored items 150 to 180 degrees apart. This suggests that these scales could be improv-

ed considerably by eliminating the outliers. This point requires further study.

The spread of the items shows the large overlap in meaning between most of the scales. In addition, the rather widespread sampling of items from the different parts of the circular continuum shown by each of the scales can probably explain why factor analysis (Comrey, 1957, 1958) and cluster analysis (Tryon, 1967, 1968) of the scales yields several factors or clusters. These results indicate that the subfactors across several of the scales are quite similar.

Leary (1957) theorized upon the structure of the MMPI scales in the interpersonal domain. Leary suggested that 8 MMPI scales ordered around the circle at equal intervals. The circular scaling technique allowed for the direct empirical examination of Leary's ideas. The common reference of the Submission-Dominance and Hate-Love dimensions allowed systematic comparisons between Leary's suggested MMPI scale placement and the empirically calcuated scale placements (see Figure 4.41). An average angular difference of 17 degrees was found. However, after rotation, the two sets of scales produce an average angular difference of only .025 degrees to the common frame of reference.

Empirical calculations confirmed the circular ordering of the scales as suggested by Leary. However, equal intervals between the scales were not demonstrated. Two scales (Dn and K) reversed positions. Leary suggested that the K scale would appear before the Dn scale in circular order. The K scale shows a 43 degree difference between the empirical calculations and Leary's placement. The Dn scale shows a 29 degree difference.

The Dn and K scales share the following 8 items: 30, 71, 124, 129, 170, 180, 234 and 267. All are scored in the negative direction (-) on each scale. These 8 items compose 31% of the items on the Dn scale and 27% of the items in the K scale. This large overlap of items may have contributed to the scale reversals. The discrepancy would seem to be reduced some by the fact that the only reversals involved adjacent scales. All in all the agreement between Leary's theoritical model and the empirical scaling data reported here seem quite remarkable.

To further explore the general validity of the model and the data, a comparision was made between the empirical calculated angles and the angles calculated from the factor loadings of these same scales. This was accomplished by using the published factor loadings from the Williams and Lawrence (1954) study. This study was used because of its suppport of the orthogonality of factors A and K of Welsh and its use of scales common to Leary's structure for comparison later (except for the Dn Scale). The calculated angular locations for the Williams and Lawrence scales were compared with the present study (Table 4.14). A mean angular difference of -59.9 degrees was found. The Williams and Lawrence scales were rotated to the common frame of reference and a new angular difference of -.04 degrees was found. These results are presented in Figure 4.42.

The circular order was for the most part maintained, except for scales A, Pa, and Hy. These 3 scales show differences in angular placement on the circle which range from 21 degrees for A scale, 28 degrees for the Pa scale, and 20 degrees for the Hy scale. These differences

may be due to the fact that, when used for self-description only some of the items on each scale will be endorsed, thereby affecting the scale intercorrelations. However, when the resultants were calculated all the items were used. These findings suggest the need for further clarification and supporting research.

Finally, a comparison between the Leary and Williams and Lawrence scales were performed (see Figure 4.44). The same circular order for the scales is maintained in this comparision. However, equal intervals between scales was again not demonstrated. The angular differences between the scale placements for the two sets of results were no larger than 45 degrees. The placements appear similar.

In summary, the results of this study support the validity of Leary's model for the MMPI scales in the interpersonal domain. The procedures utilized suggest a viable method for item placement. It also seems that the circular scaling procedure supplies detailed item information which would appear to give greater precision and control over the construction of scales to the interpersonal model helping us to understand and clarify some of the problems raised concerning the MMPI.

That is to say, future research should focus upon the investigation of the orthogonal structure of the Submission-Dominance and Hate-Love dimensions. Research into the orthogonality of these dimensions may suggest a rotation of the Submission-Dominance and Hate-Love axes relative to the presumed orthogonal structure of these dimensions.

Additional research into items which are present in one or more scales requires investigtaion. The high correlation between some

scales suggests that the additional item information obtained from circular scaling will add to new and improved scale reconstruction. New scales may be developed and validated with items within a narrow (10 to 20 degrees) range of circular meanings.

Behaviorial assessment may benefit from research investigating the change in item placement as a result of behavioral therapies. That is, intitial item placement with the circular scaling may be compared with item placement obtained after a theraputic strategy. Changes noted between the item placements may be useful indicators in evaluating therapies.

In Chapter II, it was pointed out that the current status of personality assessment can be summarized as atheoritical and actuarial. The circular scaling method may provide a link through a common frame of reference with the interpersonal domain of Leary (1957). Investigation of other instruments and the similarities between them provides valuable information in the area of personality theory.

SUMMARY

The information obtained from the present study indicates that the Minnesota Multiphasic Personality Inventory can be successfully scaled on a bipolar two dimensional continuum. The two dimensions (Submission-Dominance and Hate-Love) obtained a circular scaling order to the 566 MMPI items. The items were placed with 80 percent in Quadrants I & III strongly suggesting that the sampling of MMPI should be extended to include more items in Quadrants II and IV .The interrater reliability appeared high and no demonstration of participants fatigue in the task was evident.

Leary's (1957) suggestion of the circular order of 8 MMPI scales to the interpersonal domain was confirmed. However, the implied equal intervals between scales of Leary's systems was not demonstrated. A comparison between the obtained empirical scale placements and Leary's hypotheses manifested remarkable convergence. Although several discrepancies in scale placements between the two were noted, in general, the scale placements were on target. The further comparison of the empirical scale placements with scales from the Williams and Lawrence (1954) study again demonstrated similar findings. Finally, the Leary and Williams and Lawrence scale placements were compared. After rotation, the placements appeared to be quite similar.

This study demonstrated the utility of a circular scaling procedure for use with a major personality instrument. The scaling procedure appears to be a viable alternative to existing attempts of comparing instruments on a common frame of reference. While attempts were made to adequately control error factors, cross-validation of the present study on other populations across different dimensions was advised. The suggestion was also made that this procedure may be used to investigate the construction of scales for the MMPI to further explain some of the current problems which exist with the MMPI scales (i.e., item overlap, item placement, and rescaling).

REFERENCES

Allport, G. W. European and american theories of personality. In H. P. David and H. von Bracken (Eds.), Perspectives in personality theory. New York: Basic Books, 1957, 3-26.

Allport, G.W. The general and the unique in psychological science. Journal of Personality, 1962, 30, 405-421.

Allport, G.W., Vernon, P.E., & Lindzey, G. The Allport-Vernon study of values. Boston: Houghton-Mifflin, 1960.

Bergan, J.R. Path-referenced assessment in school psychology. In Thomas R. Kratochwill (Ed.), Advances in School Psychology (Volume 1). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1982.

Block, J. The Challenge of response sets: Unconfounding meaning, acquiescence, social desirability in the MMPI. New York: Appleton-Century-Crofts, 1965.

Buros, O.K. (Ed.) Personality tests and reviews. Highland Park, NJ: Gryphen Press, 1970.

Butcher, J. N. (Ed.) Objective personality assessment: Changing perspectives. New York: Academic Press, 1972.

Butcher, J. N. Personality assessment: Problems and perspectives. In James N. Butcher (Ed.), Objective personality assessment: Changing perspectives. New York: Academic Press, 1972, 1-19.

Butcher, J.N., and Herzog, J.G. Individual assessment in crisis intervention: Observation, life history, and personality approaches. In Charles D. Spielberger, and James N. Butcher (Eds.), Advances in personality assessment (Volume 1). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1982

Butcher, J. N. & Owen, P. L. Objective personality inventories: Recent research and some contemporary issues. In Benjamin B. Wolman (Ed.), Clinical diagnosis of mental disorders a handbook. New York: Plenem Press, 1978, 475-509.

Butcher, J. N. & Tellegen, A. Common methodological problems in MMPI research. Journal of Consulting and Clinical Psychology, 1978, 46(4), 620-628.

Cancelli, A.A., & Kratochwill, T.R. Advances in criterion-referenced assessment. In Thomas R. Kratochwill (Ed.), Advances in school psychology (Volume 1). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1981.

Cartwright, D.S. Factor analyzing theories of personality. Counseling Center Discussion Papers, Chicago: University of Chicago, 3 (24), September, 1957.

Cattell, R. B. The scientific analysis of personality. Baltimore: Penguin Books, 1965.

Christie, R. & Lindauer, F. Personality structure. Annual Review of Psychology, 1963, 14, 201-230.

Comrey, A. L. A factor analysis of items on the scales of the MMPI. Educational and Psychological Measurement, 1958, 18, 91-107; 293-323; 621-639.

Comrey, A. L. A factor analysis of items on the MMPI scales. Educational and Psychological Measurement, 1957, 17, 568-592.

Conger, A. J. A dimensional analysis of MMPI items. Multivariate Behavioral Research, 1969, 4, 309-327.

Couch, A. Psychological determinants of interpersonal behavior. Unpublished doctoral dissertation, Harvard University, 1960.

Cronbach, L. J. Essentials of psychological testing. New York: Harper and Row, 1960.

Dahlstrom, W. G. Personality. Annual Review of Psychology, 1970, 21, 1-49.

Dahlstrom, W. G. & Dahlstrom L. (Eds.) Basic readings in the MMPI a new selection in personality measurement. Minneapolis: University of Minnesota Press, 1980.

Dahlstrom W. G., Welsh, G. S., & Dahlstrom, L. E. An MMPI handbook: Volume I and II. Minneapolis: University of Minnesota Press, 1975.

Damarin, F. A latent-structure model for answering personal questions. Psychological Bulletin, 1970, 73, 23-40.

Diamond, S. Personality and temperament. New York: Harper, 1957.

Edwards, A. L. The social desirability variable in personality assessment and research. New York: Holt, Rinehart and Winston, 1957.

Edwards, A. L. Edwards personal preference schedule. New York: Psychological Corporation, 1959.

Edwards, A. L. The measurement of personality traits by scales and inventories. New York: Holt, Rinehart, and Winston, 1970.

Edwards, A. L. & Abbott, R. D. Measurement of personality traits: Theory and technique. Annual Review of Psychology, 1973, 24, 241-278.

Edwards, A.L., Klockars, A.J. & Jabbot, R.D. Social desirability and the TSC MMPI scales. Multivariate Behavior Research, 1970, 5, 153-156.

Eichman, W. J. Replicated factors on the MMPI with female NP patients. Journal of Consulting Psychology, 1961, 25, 55-60.

Eichman, W. J. Factored scales for the MMPI: A clinical and statistical manual. Journal of Clinical Psychology, 1962, 18, 363-395.

Evans, J. D. & Smith, H. W. A Factored-analytic synthesis of personality theories: Basic dimensions reconsidered. Journal of Psychology, 1972, 82, 145-149.

Eysenck, H.J. The organization of personality. Journal of Personality, 1951, 20, 101-117.

Eysenck, H. J. The psychophysiology of intelligence. In Charles D. Spielberger and James N. Butcher (Eds.), Advances in personality assessment (Volume 1). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1982.

Eysenck, H. J. & Eysenck, S. G. Personality structure and measurement. San Diego, CA: Knapp, 1969.

Fiske, D. W. & Pearson, P. H. Theory and techniques of personality measurement. Annual Review of Psychology, 1970, 21, 49-86.

Goldman-Eisler, F. The problem of orality and of its origin in early childhood. Journal of Measurement in Science, 1951, 97,

765-781.

Gough, H. G. Clinical versus statistical prediction in psychology. In L. Postman (Ed.), Psychology in the making. New York: Knopf, 1962, 526-584.

Gough, H. G. The adjective checklist manual. Palto Alto, CA: Consulting Psychologists Press, 1965.

Graham, J. R. The Minnesota Multiphasic Personality Inventory (MMPI). In Benjamin B. Wolman (Ed.), Clinical diagnosis of mental disorders a handbook. New York: Plenum Press, 1978, 311-331.

Guilford, J. P. When not to factor analyze. Psychological Bulletin, 1952, 49, 26-37.

Guilford, J. P. Personality. New York: McGraw-Hill, 1959.

Guttman, L. A new approach to factor analysis: The radex. In, P. Lazarsfeld (Ed.), Mathematical thinking in the social sciences. Glencoe, Ill.: Free Press, 1954, 258-348.

Guttman, L. Empirical verification of the radex structure of mental abilities and personality traits. Educational and psychological measurement, 1957, 17, 391-407.

Hall, C. S., & Lindzey, G. Theories of personality, Third Edition. New York: John Wiley and Sons, 1978.

Hathaway, S. R. & McKinley, J. C. The Minnesota Multiphasic Personality Schedule. Minneapolis: University of Minnesota Press, 1942; revised 1943.

Hathaway, S. R. & McKinley, J. C. The MMPI manual. New York: The Psychological Corporation, 1951; revised 1967.

Holt, R. R. Yet another look at clinical and statistical prediction- or, is clinical psychology worthwhile? American Psychologist, 1970, 25, 337-349.

Holtzman, W. H. Personality structure. Annual Review of Psychology, 1965, 16, 119-156.

Jackson, D.N. Review of the challenge of response set by Jack Block. Journal of Educational and Psychological Measurement, 1967, 27, 207-219.

Jackson, D. N. & Helmes, E. Personality structure and the circumplex. Journal of Personality and Social Psychology, 1979, 37(12), 278-285.

Jackson, D.N. & Messick, S. Response styles on the MMPI: Comparison of clinical and normal samples. Journal of Abnormal and Social Psychology, 1962, 65(2), 285-299.

Jackson, D. N. & Paunonen, S. V. Personality structure and assessment. Annual Review of Psychology, 1980, 31, 503-51.

Kassebaum, G. G., Couch, A. S. & Slater, P. The factorial dimensions of the MMPI. Journal of Consulting Psychology, 1959, 23, 226-36.

Kazdin, A.E. History of behavior modification: Experimental foundations of contempory research. Baltimore: University Park Press, 1978, 375.

Kendall, P.C., & Braswell, L. On cognitive-behavioral assessment: Model, measures, and madness. In Charles D. Spielberger and James N. Butcher (Eds.), Advances in personality assessment (Volume 1). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.,

1982.

Klein, G. S., Barr, H. L. & Wolitzby, D. L. Personality. Annual Review of Psychology, 1967, 18, 467-560.

Kratochwill, T.R. Advances in behavioral assessment. In Cecil R. Reynolds and Terry B. Gutkin (Eds.), The Handbook of school psychology. New York: John Wiley and Sons, 1982.

LaForge, R. & Suczek, R. F. The interpersonal dimension of personality: An interpersonal checklist. Journal of Personality, 1955, 24, 95-112.

Lanyon, R.I., & Goodstein, L.D. Personality Assessment, 2nd Edition. New York: John Wiley and Sons, 1982.

Leary, T. Multilevel measurement of interpersonal behavior. Berkeley, Calif.: Psychological Consultation Service, 1956.

Leary, T. Interpersonal diagnosis of personality. New York: Ronald Press, 1957.

Leary, T. & Coffey, H. S. Interpersonal diagnosis: Some problems of methodology and validation. Journal of Abnormal and Social Psychology, 1955, 50, 110-24.

Lingoes, J. C. An IBM-7090 program for Guttman-Lingoes smallest space analysis I. Behavioral Science, 1965, 10, 183-184.

Lingoes, J. C. Guttman-Lingoes nonmetric program series. Ann Arbor MI: Mathesis, 1973.

Lorr, M. A test of seven MMPI factors. Multivariate Behavioral Research, 1968, 3, 151-156.

Lyons, J., Hirschberg, N. & Wilkinson, L. The radex structure of the Leary interpersonal behavior circle. Multivariate Behav-

ioral Research, 1980, 15, 249-257.

McCormick, C. C. A study of a procedure for the scaling and calibration of personality test items applicable to the circumplex model. Unpublished doctoral dissertation, Loyola University of Chicago, 1977.

McCormick, C.C. & Kavanagh, J.A. Scaling interpersonal checklist items to a circular model. Applied Psychological Measurement, 1981, 5(4), 421-447.

Meehl, P. E. Clinical versus statistical prediction: A theoretical analysis and a review of the evidence. Minneapolis: University of Minnesota Press, 1954.

Messick, S. & Jackson, D.N. Acquiescence and the factorial interpretation of the MMPI. Psychological Bulletin, 1961, 58, 299-304.

Milholland, J.E. Theory and techniques of assessment. Annual Review of Psychology, 1964, 15, 311-346.

Murray, H. A. Thematic apperception test manual. Cambridge, Mass.: Harvard University Press, 1943.

Nelson, R.O. & Hayes, S.C. Some current dimensions of behavioral assessment. Behavioral Assessment, 1979, 1, 1-16.

Popham, W.J. & Huseck, T.R. Implications of criterion-referenced measurement. Journal of Educational Measurement, 1969, 6, 1-9.

Prichard, D.A. Bias in the MMPI: A methodological review. Journal of Consulting and Clinical Psychology, 1980, 48(2), 263-267.

Reznikoff, M., Aronow, E. & Ranchway, A.. The reliability of inkblot content scales. In Charles D. Spielberger and James N. Butcher (Eds.), Advances in personality assessment (Volume

1). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1982.

Rinn, J. L. Structure of interpersonal domains. Psychological Review, 1965, 72, 445-66.

Ross, R. T. A statistic for circular scales. Journal of Educational Psychology, 1938, 29, 384-389.

Russell, J.A. Affective space is bipolar. Journal of Personality and Social Psychology, 1979, 37, 345-356.

Russell, J. A. A circumplex model of affect. Journal of Personality and Social Psychology, 1980, 39, 1161-1178.

Sarasen, I. G. & Smith, R. E. Personality. Annual Review of Psychology, 1971, 22, 393-467.

Schaefer, E. S. A circumplex model for maternal behavior. Journal of Abnormal and Social Psychology, 1959, 59, 226-35.

Schaefer, E.S. Converging conceptual models for maternal behavior and child behavior. In J.C. Glidewell (Ed.), Parental attitudes and child behavior. Springfield, IL: Charles Thomas, 1961.

Schlosberg, H. A scale for the judgement of facial expressions. Journal of Experimental Psychology, 1941, 29, 497-510.

Schlosberg, H. The description of facial expression in terms of two dimensions. Journal of Experimental Psychology, 1952, 44, 229-37.

Schlosberg, H. Three dimensions of emotion. Psychological Review, 1954, 61, 81-88.

Schuh, A.J. A synthesis of personality theories by cluster analysis. Journal of Psychology, 1966, 64, 69-71.

Sells, S.B., Demarce, R.C. & Will, D.P. Dimensions of personality: 1. Conjoint factor structure of Guilford and Cattell trait markers. Multivariate Behavioral Research, 1970, 5, 391-422.

Shure, G.H. & Rogers, M.S. Note of caution on the factor analysis of the MMPI. Psychological Bulletin, 1965, 63(1), 14-18.

Slater, P. E. Parent behavior and the personality of the child. Journal of Genetic Psychology, 1962, 101, 53-68.

Snyder, D.K. Advances in marital assessment behavioral, communications, and psychometric approaches. In Charles D. Spielberger and James N. Butcher (Eds.), Advances in personality assessment (Volume 1). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1982.

Stern, G. G. People in context: Measuring person-environment congruence in education and industry. New York: John Wiley and Sons, 1970.

Taft, R.A. A statistical analysis of personality theories. Acta Psychologia, 1960, 17, 80-88.

Taylor, A.J. A personality scale of manifest anxiety. Journal of Abnormal and Social Psychology, 1951, 46, 285-290.

Thomas, J.A. An initial application of the circumplex model to several self-esteem scales. Unpublished doctoral dissertation, Loyola University of Chicago, 1981.

Thurston, L.L. Thurston temperament schedule: Examiner's manual. Chicago: Science Research Associates, 1949.

Tryon, R.C. Unrestricted cluster and factor analysis, with application to the MMPI and Holzinger-Harmon problems. Multivariate

Behavioral Research, 1966, 1, 229-244.

Tyron, R.C. Predicting individual differences by cluster analysis: Holzinger abilities and MMPI attributes. Multivariate Behavioral Research, 1967, 2, 325-348.

Tryon, R.C. Comparative cluster analysis of variables and individuals: Holzinger abilities and the MMPI. Multivariate Behavioral Research, 1968, 3, 115-144.

Welsh, G. S. MMPI profiles and factor scales A and R. Journal of Clinical Psychology, 1965, 21, 43-47.

Welsh, G. S. & Dahstrom, W. G., Basic Reading in the MMPI in Psychology and Medicine. Minneapolis: University of Minnesota Press, 1956.

Wheeler, W.M., Little, K.B. & Lehner, G.F. The internal structure of the MMPI. Journal of Consulting Psychology, 1951, 15, 134-141.

Wiggins, J. S. Strategy, method, and stylistic variance in the MMPI. Psychological Bulletin, 1962, 59, 224-42.

Wiggins, J. S. Personality structure. Annual Review of Psychology, 1968, 19, 293-350.

Wiggins, J. S. A psychological taxonomy of trait - Descriptive terms: The interpersonal domain. Journal of Personality and Social Psychology, 1979, 37(3), 395-412.

Wiggins, J. S. Circumplex models of interpersonal behavior. In L. Wheeler (Ed.), Review of personality and social psychology. Beverly Hills, Calif.: Sage Publications, 1980.

Williams, H. L., & Lawrence, J. F. Comparison of the Rorschach and MMPI by means of factor analysis. Journal of Consulting Psychology, 1954, 18(3), 193-197.

Woodworth, R. S. Experimental psychology. New York: Holt, 1938.

APPENDIX A

Table A3.1

566 MMPI Items

1. I like mechanics magazines.
2. I have a good appetite.
3. I wake up fresh and rested most mornings.
4. I think I would like the work of a librarian.
5. I am easily awakened by noise.
6. I like to read newspaper articles on crime.
7. My hands and feet are usually warm enough.
8. My daily life is full of things that keep me interested.
9. I am about as able to work as I ever was.
10. There seems to be a lump in my throat much of the time.
11. A person should try to understand his dreams and be guided by or take warning from them.
12. I enjoy detective or mystery stories.
13. I work under a great deal of tension.
14. I have diarrhea once a month or more.
15. Once in a while I think of things too bad to talk about.
16. I am sure that I get a raw deal from life.
17. My father was a good man.
18. I am very seldom troubled by constipation.
19. When I take a new job, I like to be tipped off on who should be gotten next to.
20. My sex life is satisfactory.
21. At times I have very much wanted to leave home.
22. At times I have fits of laughing and crying that I cannot control.
23. I am troubled by attacks of nausea and vomiting.
24. No one seems to understand me.
25. I would like to be a singer.
26. I feel that it is certainly best to keep my mouth shut when I'm in trouble.
27. Evil spirits possess me at times.
28. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.
29. I am bothered by acid stomach several times a week.
30. At times I feel like swearing.
31. I have nightmares every few nights.

Table A3.1 (continued)

32. I find it hard to keep my mind on a task or job.

33. I have had very peculiar and strange experiences.

34. I have a cough most of the time.

35. If people had not had it in for me I would have been much more successful.

36. I seldom worry about my health.

37. I have never been in trouble because of my sex behavior.

38. During one period when I was a youngster I engaged in petty thievery.

39. At times I feel like smashing things.

40. Most any time I would rather sit and daydream than to do anything else.

41. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."

42. My family does not like the work I have chosen (or the work I intend to choose for my life work).

43. My sleep is fitful and disturbed.

44. Much of the time my head seems to hurt all over.

45. I do not always tell the truth.

46. My judgment is better than it ever was.

47. Once a week or oftener I feel suddenly hot all over, without apparent cause.

48. When I am with people I am bothered by hearing very queer things.

49. It would be better if almost all laws were thrown away.

50. My soul sometimes leaves my body.

51. I am in just as good physical health as most of my friends.

52. I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.

53. A minister can cure disease by praying and putting his hand on your head.

54. I am liked by most people who know me.

55. I am almost never bothered by pains over the heart or in my chest.

56. As a youngster I was suspended from school one or more times for cutting up.

57. I am a good mixer.

58. Everything is turning out just like the prophets of the Bible said it would.

59. I have often had to take orders from someone who did not know as much as I did.

Table A3.1 (continued)

60. I do not read every editorial in the newspaper every day.

61. I have not lived the right kind of life.

62. Parts of my body often have feelings like burning, tingling, crawling, or like "going to sleep."

63. I have had no difficulty in starting or holding my bowel movement.

64. I sometimes keep on at a thing until others lose their patience with me.

65. I loved my father.

66. I see things or animals or people around me that others do not see.

67. I wish I could be as happy as others seem to be.

68. I hardly ever feel pain in the back of the neck.

69. I am very strongly attracted by members of my own sex.

70. I used to like drop-the-handkerchief.

71. I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others.

72. I am troubled by discomfort in the pit of my stomach every few days or oftener.

73. I am an important person.

74. I have often wished I were a girl (Or if you are a girl) I have never been sorry that I am a girl.

75. I get angry sometimes.

76. Most of the time I feel blue.

77. I enjoy reading love stories.

78. I like poetry.

79. My feelings are not easily hurt.

80. I sometimes tease animals.

81. I think I would like the kind of work a forest ranger does.

82. I am easily downed in an argument.

83. Any man who is able and willing to work hard has a good chance of succeeding.

84. These days I find it hard not to give up hope of amounting to something.

85. Sometimes I am strongly attracted by the personal articles of others such as shoes, gloves, etc., so that I want to handle or steal them though I have no use for them.

86. I am certainly lacking in self-confidence.

87. I would like to be a florist.

88. I usually feel that life is worthwhile.

Table A3.1 (continued)

89. It takes a lot of argument to convince most people of the truth.

90. Once in a while I put off until tomorrow what I ought to do today.

91. I do not mind being made fun of.

92. I would like to be a nurse.

93. I think most people would lie to get ahead.

94. I do many things which I regret afterwards (I regret things more or more often than others seem to).

95. I go to church almost every week.

96. I have very few quarrels with members of my family.

97. At times I have a strong urge to do something harmful or shocking.

98. I believe in the second coming of Christ.

99. I like to go to parties and other affairs where there is lots of loud fun.

100. I have met problems so full of possibilities that I have been unable to make up my mind about them.

101. I believe women ought to have as much sexual freedom as men.

102. My hardest battles are with myself.

103. I have little or no trouble with my muscles twitching or jumping.

104. I don't seem to care what happens to me.

105. Sometimes when I am not feeling well I am cross.

106. Much of the time I feel as if I have done something wrong or evil.

107. I am happy most of the time.

108. There seems to be a fullness in my head or nose most of the time.

109. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.

110. Someone has it in for me.

111. I have never done anything dangerous for the thrill of it.

112. I frequently find it necessary to stand up for what I think is right.

113. I believe in law enforcement.

114. Often I feel as if there were a tight band about my head.

115. I believe in a life hereafter.

116. I enjoy a race or game better when I bet on it.

117. Most people are honest chiefly through fear of being caught.

Table A3.1 (continued)

118. In school I was sometimes sent to the principal for cutting up.

119. My speech is the same as always (not faster or slower, or slurring; no hoarseness).

120. My table manners are not quite as good at home as when I am out in company.

121. I believe I am being plotted against.

122. I seem to be about as capable and smart as most others around me.

123. I believe I am being followed.

124. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.

125. I have a great deal of stomach trouble.

126. I like dramatics.

127. I know who is responsible for most of my troubles.

128. The sight of blood neither frightens me nor makes me sick.

129. Often I can't understand why I have been so cross and grouchy.

130. I have never vomited blood or coughed up blood.

131. I do not worry about catching diseases.

132. I like collecting flowers or growing house plants.

133. I have never indulged in any unusual sex practices.

134. At times my thoughts have raced ahead faster than I could speak them.

135. If I could get into a movie without paying and be sure I was not seen I would probably do it.

136. I commonly wonder what hidden reason another person may have for doing something nice for me.

137. I believe that my home life is as pleasant as that of most people I know.

138. Criticism or scolding hurts me terribly.

139. Sometimes I feel as if I must injure either myself or someone else.

140. I like to cook.

141. My conduct is largely controlled by the customs of those about me.

142. I certainly feel useless at times.

143. When I was a child, I belonged to a crowd or gang that tried to stick together through thick and thin.

144. I would like to be a soldier.

145. At times I feel like picking a fist fight with someone.

Table A3.1 (continued)

146. I have the wanderlust and am never happy unless I am roaming or traveling about.

147. I have often lost out on things because I couldn't make up my mind soon enough.

148. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.

149. I used to keep a diary.

150. I would rather win than lose in a game.

151. Someone has been trying to poison me.

152. Most nights I go to sleep without thoughts or ideas bothering me.

153. During the past few years I have been well most of the time.

154. I have never had a fit or convulsion.

155. I am neither gaining nor losing weight.

156. I have had periods in which I carried on activities without knowing later what I had been doing.

157. I feel that I have often been punished without cause.

158. I cry easily.

159. I cannot understand what I read as well as I used to.

160. I have never felt better in my life than I do now.

161. The top of my head sometimes feels tender.

162. I resent having anyone take me in so cleverly that I have had to admit that it was one on me.

163. I do not tire quickly.

164. I like to study and read about things that I am working at.

165. I like to know some important people because it makes me feel important.

166. I am afraid when I look down from a high place.

167. It wouldn't make me nervous if any members of my family got into trouble with the law.

168. There is something wrong with my mind.

169. I am not afraid to handle money.

170. What others think of me does not bother me.

171. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of things.

172. I frequently have to fight against showing that I am bashful.

173. I liked school.

174. I have never had a fainting spell.

Table A3.1 (continued)

175. I seldom or never have dizzy spells.

176. I do not have a great fear of snakes.

177. My mother was a good woman.

178. My memory seems to be all right.

179. I am worred about sex matters.

180. I find it hard to make talk when I meet new people.

181. When I get bored I like to stir up some excitement.

182. I am afraid of losing my mind.

183. I am against giving money to beggars.

184. I commonly hear voices without knowing where they come from.

185. My hearing is apparently as good as that of most people.

186. I frequently notice my hand shakes when I try to do something.

187. My hands have not become clumsy or awkward.

188. I can read a long while without tiring my eyes.

189. I feel weak all over much of the time.

190. I have very few headaches.

191. Sometimes, when embarrassed, I break out in a sweat which annoys me greatly.

192. I have had no difficulty in keeping my balance in walking.

193. I do not have spells of hay fever or asthma.

194. I have had attacks in which I could not control my movements or speech but in which I knew what was going on around me.

195. I do not like everyone I know.

196. I like to visit places where I have never been before.

197. Someone has been trying to rob me.

198. I daydream very little.

199. Children should be taught all the main facts of sex.

200. There are persons who are trying to steal my thoughts and ideas.

201. I wish I were not so shy.

202. I believe I am a condemned person.

203. If I were a reporter I would very much like to report news of the theater.

204. I would like to be a journalist.

205. At times it has been impossible for me to keep from stealing or shoplifting someting.

206. I am very religious (more than most people).

207. I enjoy many different kinds of play and recreation.

Table A3.1 (continued)

208. I like to flirt.

209. I believe my sins are unpardonable.

210. Everything tastes the same.

211. I can sleep during the day but not at night.

212. My people treat me more like a child than a grown-up.

213. In walking I am very careful to step over sidewalk cracks.

214. I have never had any breaking out on my skin that has worried me.

215. I have used alcohol excessively.

216. There is very little love and companionship in my family as compared to other homes.

217. I frequently find myself worrying about something.

218. It does not bother me particularly to see animals suffer.

219. I think I would like the work of a building contractor.

220. I loved my mother.

221. I like science.

222. It is not hard for me to ask help from my friends even though I cannot return the favor.

223. I very much like hunting.

224. My parents have often objected to the kind of people I went around with.

225. I gossip a little at times.

226. Some of my family have habits that bother and annoy me very much.

227. I have been told that I walk during sleep.

228. At times I feel that I can make up my mind with unusually great ease.

229. I should like to belong to several clubs or lodges.

230. I hardly ever notice my heart pounding and I am seldom short of breath.

231. I like to talk about sex.

232. I have been inspired to a program of life based on duty which I have since carefully followed.

233. I have at times stood in the way of people who were trying to do something, not because it amounted to much but because of the principle of the thing.

234. I get mad easily and then get over it soon.

235. I have been quite independent and free from family rule.

236. I brood a great deal.

237. My relatives are nearly all in sympathy with me.

238. I have periods of such great restlessness that I cannot sit long in a chair.

Table A3.1 (contined)

239. I have been disappointed in love.

240. I never worry about my looks.

241. I dream frequently about things that are best kept to myself.

242. I believe I am no more nervous than most others.

243. I have few or no pains.

244. My way of doing things is apt to be misunderstood by others.

245. My parents and family find more fault with me than they should.

246. My neck spots with red often.

247. I have reason for feeling jealous of one or more members of my family.

248. Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world."

249. I believe there is a Devil and a Hell in afterlife.

250. I don't blame anyone for trying to grab everything he can get in this world.

251. I have had blank spells in which my activities were interrupted and I did not know what was going on around me.

252. No one cares much what happens to you.

253. I can be friendly with people who do things which I consider wrong.

254. I like to be with a crowd who play jokes on one another.

255. Sometimes at elections I vote for men about whom I know very little.

256. The only interesting part of newspapers is the "funnies."

257. I usually expect to succeed in things I do.

258. I believe there is a God.

259. I have difficulty in starting to do things.

260. I was a slow learner in school.

261. If I were an artist I would like to draw flowers.

262. It does not bother me that I am not better looking.

263. I sweat very easily even on cool days.

264. I am entirely self-confident.

265. It is safer to trust nobody.

266. Once a week or oftener I become very excited.

267. When in a group of people I have trouble thinking of the right things to talk about.

268. Sometime exciting will almost always pull me out of it when I am feeling low.

Table A3.1 (continued)

269. I can easily make other people afraid of me, and sometimes do for the fun of it.

270. When I leave home I do not worry about whether the door is locked and the windows closed.

271. I do not blame a person for taking advantage of someone who lays himself open to it.

272. At times I am all full of energy.

273. I have numbness in one or more regions of my skin.

274. My eyesight is as good as it has been for years.

275. Someone has control over my mind.

276. I enjoy children.

277. At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it.

278. I have often felt that strangers were looking at me critically.

279. I drink an unusually amount of water every day.

280. Most people make friends because friends are likely to be useful to them.

281. I do not often notice my ears ringing or buzzing.

282. Once in a while I feel hate toward members of my family whom I usually love.

283. If I were a reporter I would very much like to report sporting news.

284. I am sure I am being talked about.

285. Once in a while I laugh at a dirty joke.

286. I am never happier than when alone.

287. I have very few fears compared to my friends.

288. I am troubled by attacks of nausea and vomiting.

289. I am always disgusted with the law when a criminal is freed through the arguments of a smart lawyer.

290. I work under a great deal of tension.

291. At one or more times in my life I felt that someone was making me do things by hypnotizing me.

292. I am likely not to speak to people until they speak to me.

293. Someone has been trying to influence my mind.

294. I have never been in trouble with the law.

295. I liked "Alice in Wonderland" by Lewis Carroll.

296. I have periods in which I feel unusually cheerful without any special reason.

297. I wish I were not bothered by thoughts about sex.

Table A3.1 (continued)

298. If several people find themselves in trouble, the best thing for them to do is to agree upon a story and stick to it.

299. I think that I feel more intensely than most people do.

300. There never was a time in my life when I liked to play with dolls.

301. Life is a strain for me much of the time.

302. I have never been in trouble because of my sex behavior.

303. I am so touchy on some subjects that I can't talk about them.

304. In school I found it very hard to talk before the class.

305. Even when I am with people I feel lonely much of the time.

306. I get all the sympathy I should.

307. I refuse to play some games because I am not good at them.

308. At times I have very much wanted to leave home.

309. I seem to make friends about as quickly as others do.

310. My sex life is satisfactory.

311. During one period when I was a youngster I engaged in petty thievery.

312. I dislike having people about me.

313. The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it.

314. Once in a whole I think of things too bad to talk about.

315. I am sure I get a raw deal from life.

316. I think nearly anyone would tell a lie to keep out of trouble.

317. I am more sensitive than most other people.

318. My daily life is full of things that keep me interested.

319. Most people inwardly dislike putting themselves out to help other people.

320. Many of my dreams are about sex matters.

321. I am easily embarrassed.

322. I worry over money and business.

323. I have had very peculiar and strange experiences.

324. I have never been in love with anyone.

325. The things that some of my family have done have frightened me.

326. At times I have fits of laughing and crying that I cannot control.

Table A3.1 (continued)

327. My mother or father often made me obey even when I thought that it was unreasonable.

328. I find it hard to keep my mind on a task or job.

329. I almost never dream.

330. I have never been paralyzed or had any unusual weakness of any of my muscles.

331. If people had not had it in for me I would have been much more successful.

332. Sometimes my voice leaves me or changes even though I have no cold.

333. No one seems to understand me.

334. Peculiar odors come to me at times.

335. I cannot keep my mind on one thing.

336. I easily become impatient with people.

337. I feel anxiety about something or someone almost all the time.

338. I have certainly had more than my share of things to worry about.

339. Most of the time I wish I were dead.

340. Sometimes I become so excited that I find it hard to get to sleep.

341. At times I hear so well it bothers me.

342. I forget right away what people say to me.

343. I usually have to stop and think before I act even in trifling matters.

344. Often I cross the street in order not to meet someone I see.

345. I often feel as if things were not real.

346. I have a habit of counting things that are not important such as bulbs on electric signs, and so forth.

347. I have no enemies who really wish to harm me.

348. I tend to be on my guard with people who are somewhat more friendly than I had expected.

349. I have strange and peculiar thoughts.

350. I hear strange things when I am alone.

351. I get anxious and upset when I have to make a short trip away from home.

352. I have been afraid of things or people that I knew could not hurt me.

353. I have no dread of going into a room by myself where other people have already gathered and are talking.

354. I am afraid of using a knife or anything very sharp or pointed.

Table A3.1 (continued)

355. Sometimes I enjoy hurting persons I love.

356. I have more trouble concentrating than others seem to have.

357. I have several times given up doing a thing because I thought too little of my ability.

358. Bad words, often terrible words, come into my mind and I cannot get rid of them.

359. Sometimes some unimportant thought will run through my mind and bother me for days.

360. Almost every day something happens to frighten me.

361. I am inclined to take things hard.

362. I am more sensitive than most other people.

363. At times I have enjoyed being hurt by someone I loved.

364. People say insulting and vulgar things about me.

365. I feel uneasy indoors.

366. Even when I am with people I feel lonely much of the time.

367. I am not afraid of fire.

368. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.

369. Religion gives me no worry.

370. I hate to have to rush when working.

371. I am not unusually self-conscious.

372. I tend to be interested in several different hobbies rather than to stick to one of them for a long time.

373. I feel sure that there is only one true religion.

374. At periods my mind seems to work more slowly than usual.

375. When I am feeling very happy and active, someone who is blue or low will spoil it all.

376. Policemen are usually honest.

377. At parties I am more likely to sit by myself or with just one other person than to join in with the crowd.

378. I do not like to see women smoke.

379. I very seldom have spells of the blues.

380. When someone says silly or ignorant things about something I know about, I try to set him right.

381. I am often said to be hotheaded.

382. I wish I could get over worrying about things I have said that may have injured other people's feelings.

383. People often disappoint me.

Table A3.1 (continued)

384. I feel unable to tell anyone all about myself.

385. Lightning is one of my fears.

386. I like to keep people guessing what I'm going to do next.

387. The only miracles I know of are simply tricks that people play on one another.

388. I am afraid to be alone in the dark.

389. My plans have frequently seemed so full of difficulties that I have had to give them up.

390. I have often felt badly over being misunderstood when trying to keep someone from making a mistake.

391. I love to go to dances.

392. A windstorm terrifies me.

393. Horses that don't pull should be beaten or kicked.

394. I frequently ask people for advice.

395. The future is too uncertain for a person to make serious plans.

396. Often, even though everything is going fine for me, I feel that I don't care about anything.

397. I have sometimes felt that difficulties were piling up so high that I could not overcome them.

398. I often think, "I wish I were a child again."

399. I am not easily angered.

400. If given the chance I could do some things that would be of great benefit to the world.

401. I have no fear of water.

402. I often must sleep over a matter before I decide what to do.

403. It is great to be living in these times when so much is going on.

404. People have often misunderstood my intensions when I was trying to put them right and be helpful.

405. I have no trouble swallowing.

406. I have often met people who were supposed to be experts who were no better than I.

407. I am usually calm and not easily upset.

408. I am apt to hide my feelings in some things, to the point that people may hurt me without their knowing about it.

409. At times I have worn myself out by undertaking too much.

410. I would certainly enjoy beating a crook at his own game.

411. It makes me feel like a failure when I hear of the success of someone I know well.

Table A3.1 (continued)

412. I do not dread seeing a doctor about a sickness or injury.

413. I deserve severe punishment for my sins.

414. I am apt to take disappointments so keenly that I can't put them out of my mind.

415. If given the chance I would make a good leader of people.

416. It bothers me to have someone watch me at work even though I know I can do it well.

417. I am often so annoyed when someone tries to get ahead of me in a line of people that I speak to him about it.

418. At times I think I am no good at all.

419. I played hooky from school quite often as a youngster.

420. I have had some very unusual religious experiences.

421. One or more members of my family is very nervous.

422. I have felt embarrassed over the type of work that one or more members of my family have done.

423. I like or have liked fishing very much.

424. I feel hungry almost all the time.

425. I dream frequently.

426. I have at times had to be rough with people who were rude or annoying.

427. I am embarrassed by dirty stories.

428. I like to read newspaper editorials.

429. I like to attend lectures on serious subjects.

430. I am attracted by members of the opposite sex.

431. I worry quite a bit over possible misfortunes.

432. I have strong political opinions.

433. I used to have imaginary companions.

434. I would like to be an auto racer.

435. Usually I would prefer to work with women.

436. People generally demand more respect for their own rights than they are willing to allow for others.

437. It is all right to get around the law if you don't actually break it.

438. There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.

439. It makes me nervous to have to wait.

Table A3.1 (continued)

440. I try to remember good stories to pass them on to other people.

441. I like tall women.

442. I have had periods in which I lost sleep over worry.

443. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.

444. I do not try to correct people who express an ignorant belief.

445. I was fond of excitement when I was young (or in childhood).

446. I enjoy gambling for small stakes.

447. I am often inclined to go out of my way to win a point with someone who has opposed me.

448. I am bothered by people outside, on streetcars, in stores, etc., watching me.

449. I enjoy social gatherings just to be with people.

450. I enjoy the excitement of a crowd.

451. My worries seem to disappear when I get into a crowd of lively friends.

452. I like to poke fun at people.

453. When I was a child I didn't care to be a member of a crowd or gang.

454. I could be happy living all alone in a cabin in the woods or mountains.

455. I am quite often not in on the gossip and talk of the group I belong to.

456. A person shouldn't be punished for breaking a law that he thinks is unreasonable.

457. I believe that a person should never taste an alcoholic drink.

458. The man who had most to do with me when I was a child (such as my father, stepfather, etc.) was very strict with me.

459. I have one or more bad habits which are so strong that it is no use in fighting against them.

460. I have used alcohol moderately (or not at all).

461. I find it hard to set aside a task that I have undertaken, even for a short time.

462. I have had no difficulty starting or holding my urine.

463. I used to like hopscotch.

464. I have never seen a vision.

465. I have several times had a change of heart about my life work.

466. Except by a doctor's orders I never take drugs or sleeping powders.

Table A3.1 (continued)

467. I often memorize numbers that are not important (such as automobile licenses, etc.).

468. I am often sorry because I am so cross and grouchy.

469. I have often found people jealous of my good ideas, just because they had not thought of them first.

470. Sexual things disgust me.

471. In school my marks in deportment were quite regularly bad.

472. I am fascinated by fire.

473. Whenever possible I avoid being in a crowd.

474. I have to urinate no more often than others.

475. When I am cornered I tell that portion of the truth which is not likely to hurt me.

476. I am a special agent of God.

477. If I were in trouble with several friends who were equally to blame, I would rather take the whole blame than to give them away.

478. I have never been made especially nervous over trouble that any members of my family have gotten into.

479. I do not mind meeting strangers.

480. I am often afraid of the dark.

481. I can remember "playing sick" to get out of something.

482. While in trains, busses, etc.; I often talk to strangers.

483. Christ performed miracles such as changing water into wine.

484. I have one or more faults which are so big that it seems better to accept them and try to control them rather than to try to get rid of them.

485. When a man is with a woman he is usually thinking about things related to her sex.

486. I have never noticed any blood in my urine.

487. I feel like giving up quickly when things go wrong.

488. I pray several times every week.

489. I feel sympathetic towards people who tend to hang on to their griefs and troubles.

490. I read in the Bible several times a week.

491. I have no patience with people who believe there is only one true religion.

492. I dread the thought of an earthquake.

493. I prefer work which requires close attention, to work which allows me to be careless.

Table A3.1 (continued)

494. I am afraid of finding myself in a closet or small closed place.

495. I usually "lay my cards on the table" with people that I am trying to correct or improve.

496. I have never seen things doubled (that is, an object never looks like two objects to me without my being able to make it look like one object).

497. I enjoy stories of adventure.

498. It is always a good thing to be frank.

499. I must admit that I have at times been worried beyond reason over something that really did not matter.

500. I readily become one hundred per cent sold on a good idea.

501. I usually work things out for myself rather than get someone to show me how.

502. I like to let people know where I stand on things.

503. It is unusual for me to express strong approval or disapproval of the actions of others.

504. I do not try to cover up my poor opinion or pity of a person so that he won't know how I feel.

505. I have had periods when I felt so full of pep that sleep did not seem necessary for days at a time.

506. I am a high-strung person.

507. I have frequently worked under people who seem to have things arranged so that they get credit for good work but are able to pass off mistakes onto those under them.

508. I believe my sense of smell is as good as other people's.

509. I sometimes find it hard to stick up for my rights because I am so reserved.

510. Dirt frightens or disgusts me.

511. I have a daydream life about which I do not tell other people.

512. I dislike to take a bath.

513. I think Lincoln was greater than Washington.

514. I like mannish women.

515. In my home we have always had the ordinary necessities (such as enough food, clothing, etc.).

516. Some of my family have quick tempers.

517. I cannot do anything well.

518. I have often felt guilty because I have pretended to feel more sorry about something than I really was.

519. There is something wrong with my sex organs.

Table A3.1 (continued)

520. I strongly defend my own opinions as a rule.

521. In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.

522. I have no fear of spiders.

523. I practically never blush.

524. I am not afraid of picking up a disease or germs from door knobs.

525. I am made nervous by certain animals.

526. The future seems hopeless to me.

527. The members of my family and my close relatives get along quite well.

528. I blush no more often than others.

529. I would like to wear expensive clothes.

530. I am often afraid that I am going to blush.

531. People can pretty easily change me even though I thought that my mind was already made up on a subject.

532. I can stand as much pain as others can.

533. I am not bothered by a great deal of belching of gas from my stomach.

534. Several times I have been the last to give up trying to do a thing.

535. My mouth feels dry almost all the time.

536. It makes me angry to have people hurry me.

537. I would like to hunt lions in Africa.

538. I think I would like the work of a dressmaker.

539. I am not afraid of mice.

540. My face has never been paralyzed.

541. My skin seems to be unusually sensitive to touch.

542. I have never had any black, tarry-looking bowel movements.

543. Several times a week I feel as if something dreadful is about to happen.

544. I feel tired a good deal of the time.

545. Sometimes I have the same dream over and over.

546. I like to read about history.

547. I like parties and socials.

548. I never attend a sexy show if I can avoid it.

549. I shrink from facing a crisis or difficulty.

550. I like repairing a door latch.

Table A3.1 (continued)

551. Sometimes I am sure that other people can tell what I am thinking.

552. I like to read about science.

553. I am afraid of being alone in a wide-open place.

554. If I were an artist I would like to draw children.

555. I sometimes feel that I am about to go to pieces.

556. I am very careful about my manner of dress.

557. I would like to be a private secretary.

558. A large number of people are guilty of bad sexual conduct.

559. I have often been frightened in the middle of the night.

560. I am greatly bothered by forgetting where I put things.

561. I very much like horseback riding.

562. The one to whom I was most attached and whom I most admired as a child was a woman. (Mother, sister, aunt, or other woman.)

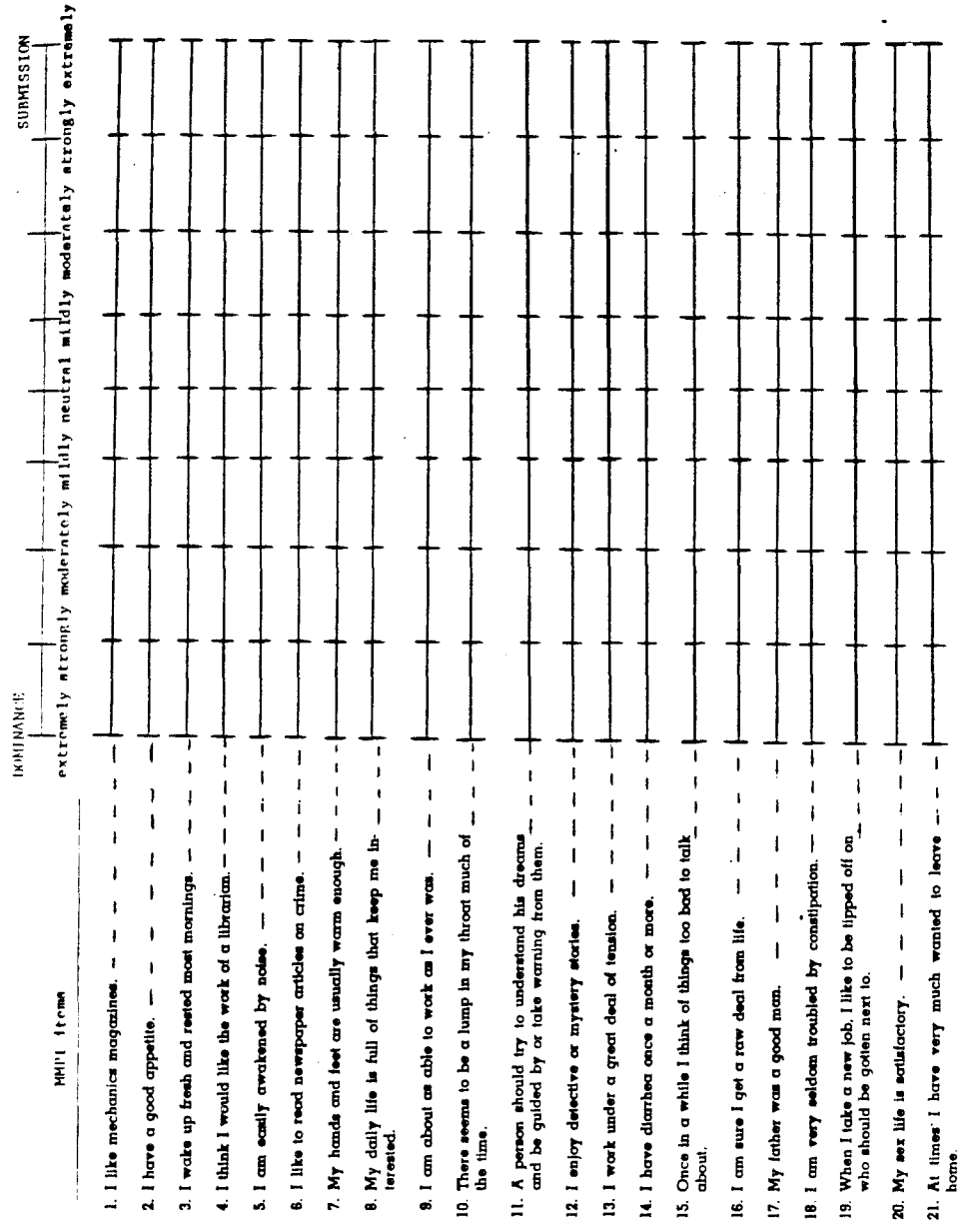
563. I like adventure stories better than romantic stories.

564. I am apt to pass up something I want to do when others feel that it isn't worth doing.

565. I feel like jumping off when I am on a high place.

566. I like movie love scenes.

Table A3.2
MMPI Item - Statements on
Bipolar, 9 point scale, Submission -
Dominance Dimension



MMPI items	DOMINANCE / SUBMISSION extremely strongly moderately mildly neutral mildly moderately strongly extremely
22. At times I have fits of laughing and crying that I cannot control.	
23. I am troubled by attacks of nausea and vomiting.	
24. No one seems to understand me.	
25. I would like to be a singer.	
26. I feel that it is certainly best to keep my mouth shut when I'm in trouble.	
27. Evil spirits possess me at times.	
28. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.	
29. I am bothered by acid stomach several times a week.	
30. At times I feel like swearing.	
31. I have nightmares every few nights.	
32. I find it hard to keep my mind on a task or job.	
33. I have had very peculiar and strange experiences.	
34. I have a cough most of the time.	
35. If people had not had it in for me I would have been much more successful.	
36. I seldom worry about my health.	
37. I have never been in trouble because of my sex behavior.	
38. During one period when I was a youngster I engaged in petty thievery.	
39. At times I feel like smashing things.	
40. Most any time I would rather sit and daydream than to do anything else.	

Table A3.2 (continued)

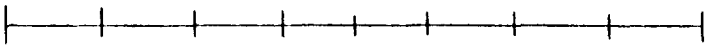
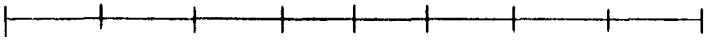
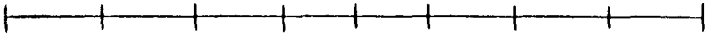
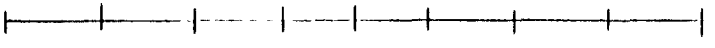
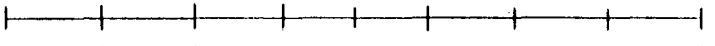
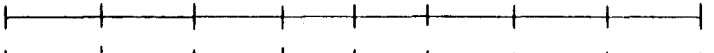
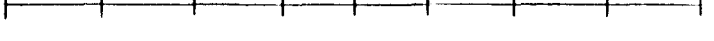
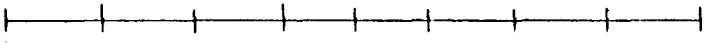
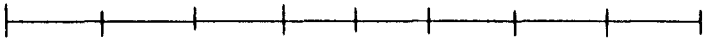
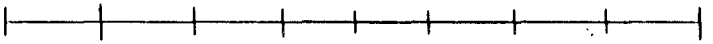
MMPI items	DOMINANCE / SUBMISSION extremely strongly moderately mildly neutral mildly moderately strongly extremely
41. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."	
42. My family does not like the work I have chosen (or the work I intend to choose for my life work).	
43. My sleep is fitful and disturbed.	
44. Much of the time my head seems to hurt all over.	
45. I do not always tell the truth.	
46. My judgment is better than it ever was.	
47. Once a week or oftener I feel suddenly hot all over, without apparent cause.	
48. When I am with people I am bothered by hearing very queer things.	
49. It would be better if almost all laws were thrown away.	
50. My soul sometimes leaves my body.	

Table A3.2 (continued)

Table A3.3

MMPI Item - Statements on Bipolar, 9 Point Scale, Hate-Love Dimension

MMPI items	LOVE extremely strongly moderately mildly neutral mildly moderately strongly extremely HATE
1. I like mechanics magazines.	
2. I have a good appetite.	
3. I wake up fresh and rested most mornings.	
4. I think I would like the work of a librarian.	
5. I am easily awakened by noise.	
6. I like to read newspaper articles on crime.	
7. My hands and feet are usually warm enough.	
8. My daily life is full of things that keep me interested.	
9. I am about as able to work as I ever was.	
10. There seems to be a lump in my throat much of the time.	
11. A person should try to understand his dreams and be guided by or take warning from them.	
12. I enjoy detective or mystery stories.	
13. I work under a great deal of tension.	
14. I have diarrhea once a month or more.	
15. Once in a while I think of things too bad to talk about.	
16. I am sure I get a raw deal from life.	
17. My father was a good man.	
18. I am very seldom troubled by constipation.	
19. When I take a new job, I like to be tipped off on who should be gotten next to.	
20. My sex life is satisfactory.	
21. At times I have very much wanted to leave home	

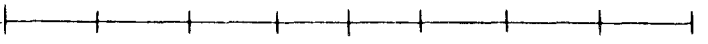
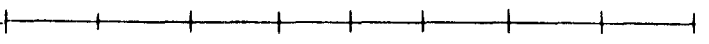
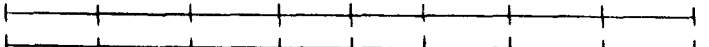
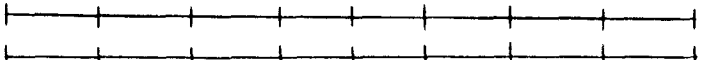
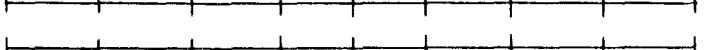
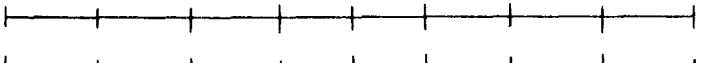
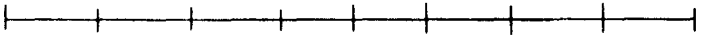
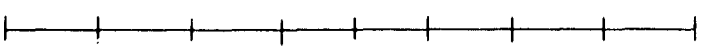
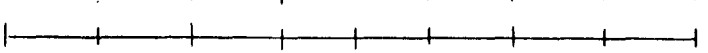
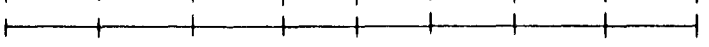
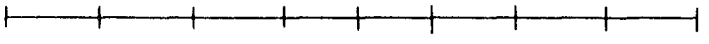
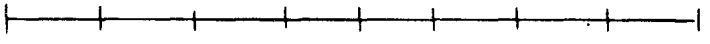
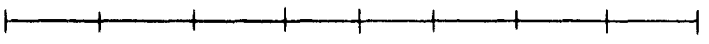
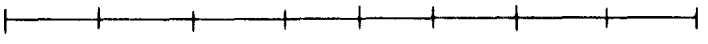
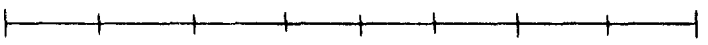
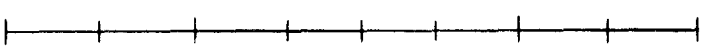
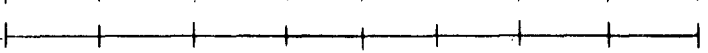
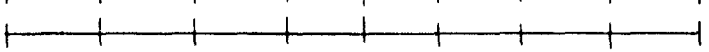
MMPI items	LOVE / HATE extremely strongly moderately mildly neutral mildly moderately strongly extremely
22. At times I have fits of laughing and crying that I cannot control.	
23. I am troubled by attacks of nausea and vomiting.	
24. No one seems to understand me.	
25. I would like to be a singer.	
26. I feel that it is certainly best to keep my mouth shut when I'm in trouble.	
27. Evil spirits possess me at times.	
28. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.	
29. I am bothered by acid stomach several times a week.	
30. At times I feel like swearing.	
31. I have nightmares every few nights.	
32. I find it hard to keep my mind on a task or job.	
33. I have had very peculiar and strange experiences.	
34. I have a cough most of the time.	
35. If people had not had it in for me I would have been much more successful.	
36. I seldom worry about my health.	
37. I have never been in trouble because of my sex behavior.	
38. During one period when I was a youngster I engaged in petty thievery.	
39. At times I feel like smashing things.	
40. Most any time I would rather sit and daydream than to do anything else.	

Table A3.3 (continued)

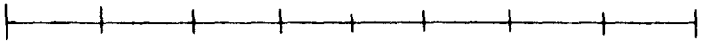
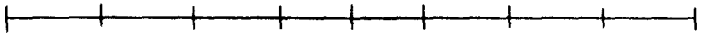
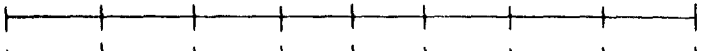
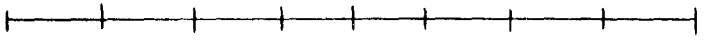
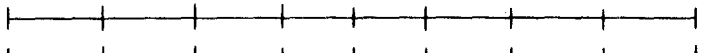
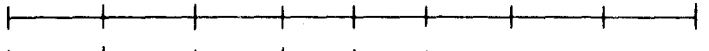
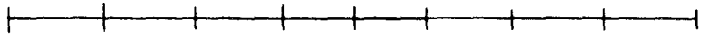
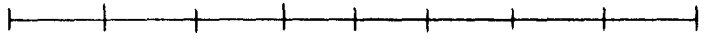
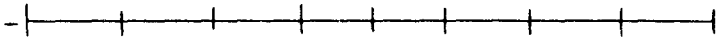
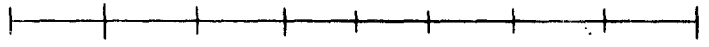
MMPI Items	LOVE / HATE extremely strongly moderately mildly neutral mildly moderately strongly extremely
41. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."	
42. My family does not like the work I have chosen (or the work I intend to choose for my life work).	
43. My sleep is fitful and disturbed.	
44. Much of the time my head seems to hurt all over.	
45. I do not always tell the truth.	
46. My judgment is better than it ever was.	
47. Once a week or oftener I feel suddenly hot all over, without apparent cause.	
48. When I am with people I am bothered by hearing very queer things.	
49. It would be better if almost all laws were thrown away.	
50. My soul sometimes leaves my body.	

Table A3.3 (continued)

Table A4.1

Frequency Distribution for Males, Females and

Total Groups on the Submission-Dominance Dimension

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	3	0	1	4	32	30	31	6	3
001	117	FEMALE	1	5	3	9	37	30	21	11	0
	227	TOTAL	4	5	4	13	69	60	52	17	3
	110	MALE	0	1	1	1	25	35	26	13	8
002	116	FEMALE	0	1	2	3	28	28	31	15	8
	226	TOTAL	0	2	3	4	53	63	57	28	16
	110	MALE	1	1	1	4	29	33	29	10	1
003	117	FEMALE	0	1	4	2	28	33	29	16	4
	227	TOTAL	1	2	5	6	57	66	58	26	5
	110	MALE	2	5	14	23	32	23	9	2	0
004	117	FEMALE	2	4	14	25	29	23	13	6	1
	227	TOTAL	4	9	28	48	61	46	22	8	1
	110	MALE	3	3	15	26	36	16	8	1	2
005	117	FEMALE	2	9	15	27	32	13	11	7	1
	227	TOTAL	5	12	30	53	68	29	19	8	3
	110	MALE	1	3	3	6	21	38	30	4	4
006	117	FEMALE	1	0	4	7	25	30	35	14	1
	227	TOTAL	2	3	7	13	46	68	65	18	5
	110	MALE	1	1	4	5	47	30	18	3	1
007	117	FEMALE	0	4	4	11	52	25	16	4	1
	227	TOTAL	1	5	8	16	99	55	34	7	2
	110	MALE	0	0	3	3	24	24	34	15	7
008	116	FEMALE	0	2	1	4	17	23	39	24	6
	226	TOTAL	0	2	4	7	41	47	73	39	13
	109	MALE	0	1	3	10	23	27	24	16	5
009	116	FEMALE	1	1	2	10	29	26	23	18	6
	225	TOTAL	1	2	5	20	52	53	47	34	11
	110	MALE	2	11	18	42	26	6	5	0	0
010	115	FEMALE	5	12	30	31	24	8	4	1	0
	225	TOTAL	7	23	48	73	50	14	9	1	0
	110	MALE	2	7	11	20	29	23	12	6	0
011	116	FEMALE	1	10	17	14	31	19	15	9	0
	226	TOTAL	3	17	28	34	60	42	27	15	0
	110	MALE	1	0	2	4	22	35	32	12	2
012	117	FEMALE	0	3	4	5	24	39	22	16	4
	227	TOTAL	1	3	6	9	46	74	54	28	6
	110	MALE	3	3	12	24	21	20	13	11	3
013	116	FEMALE	2	8	20	16	19	16	20	13	2
	226	TOTAL	5	11	32	40	40	36	33	24	5
	109	MALE	3	8	21	19	42	9	2	4	1
014	116	FEMALE	5	13	22	30	34	0	11	1	0
	225	TOTAL	8	21	43	49	76	9	13	5	1

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	11	18	39	18	13	6	3	2
015	117	FEMALE	3	11	35	25	24	12	3	4	0
	227	TOTAL	3	22	53	64	42	25	9	7	2
	110	MALE	7	22	19	20	21	6	9	4	2
016	116	FEMALE	14	36	22	8	10	7	11	6	2
	226	TOTAL	21	58	41	28	31	13	20	10	4
	109	MALE	1	2	1	4	30	17	30	14	10
017	117	FEMALE	4	3	3	2	34	13	27	20	11
	226	TOTAL	5	5	4	6	64	30	57	34	21
	109	MALE	1	0	6	13	45	20	14	7	3
018	115	FEMALE	4	4	7	17	49	18	14	1	1
	224	TOTAL	5	4	13	30	94	38	28	8	4
	110	MALE	1	3	10	7	23	31	27	8	0
019	115	FEMALE	1	4	12	7	21	25	24	12	9
	225	TOTAL	2	7	22	14	44	56	51	20	9
	110	MALE	0	1	2	4	34	25	31	10	3
020	115	FEMALE	0	0	3	9	40	20	29	9	5
	225	TOTAL	0	1	5	13	74	45	60	19	8
	110	MALE	0	5	13	17	21	24	21	8	1
021	114	FEMALE	2	11	14	16	21	24	17	7	2
	224	TOTAL	2	16	27	33	42	48	38	15	3
	110	MALE	7	9	23	28	23	13	6	1	0
022	116	FEMALE	5	16	35	19	21	7	6	6	1
	226	TOTAL	12	25	58	47	44	20	12	7	1
	110	MALE	5	9	25	26	38	3	3	0	1
023	116	FEMALE	4	24	31	21	25	2	6	3	0
	226	TOTAL	9	33	56	47	63	5	9	3	1
	109	MALE	4	17	28	20	20	6	8	6	0
024	116	FEMALE	10	21	39	15	18	5	5	3	0
	225	TOTAL	14	38	67	35	38	11	13	9	0
	108	MALE	2	1	4	5	28	39	18	7	4
025	116	FEMALE	2	4	4	9	27	28	24	15	3
	224	TOTAL	4	5	8	14	55	67	42	22	7
	109	MALE	1	8	21	21	22	19	9	6	2
026	115	FEMALE	5	7	23	24	20	14	14	5	3
	224	TOTAL	6	15	44	45	42	33	23	11	5
	108	MALE	13	20	21	14	21	11	3	2	3
027	116	FEMALE	22	29	24	13	18	4	5	1	0
	224	TOTAL	35	49	45	27	39	15	8	3	3
	109	MALE	2	3	3	9	15	23	29	18	7
028	116	FEMALE	0	7	12	10	13	19	21	24	10
	225	TOTAL	2	10	15	19	28	42	50	42	17
	109	MALE	3	9	19	26	36	7	5	3	1
029	116	FEMALE	4	14	25	27	29	9	5	3	0
	225	TOTAL	7	23	44	53	65	16	10	6	1

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	1	2	4	16	24	30	28	3	1
030	116	FEMALE	0	1	9	19	25	33	18	7	4
	225	TOTAL	1	3	13	35	49	63	46	10	5
	109	MALE	2	9	19	26	35	8	6	2	2
031	115	FEMALE	7	7	30	31	27	9	3	0	1
	224	TOTAL	9	16	49	57	62	17	9	2	3
	110	MALE	4	7	21	29	30	14	4	0	1
032	115	FEMALE	1	8	29	33	27	13	3	0	1
	225	TOTAL	5	15	50	62	57	27	7	0	2
	110	MALE	2	6	12	18	39	14	13	4	2
033	116	FEMALE	2	5	25	21	42	12	6	3	0
	226	TOTAL	4	11	37	39	81	26	19	7	2
	110	MALE	2	7	19	25	43	8	4	2	0
034	115	FEMALE	3	8	21	27	45	3	6	2	0
	225	TOTAL	5	15	40	52	88	11	10	4	0
	110	MALE	12	18	23	18	17	12	7	2	1
035	115	FEMALE	19	25	30	8	15	4	10	4	0
	225	TOTAL	31	43	53	26	32	16	17	6	1
	110	MALE	0	2	4	9	30	26	23	15	1
036	116	FEMALE	2	4	4	8	33	29	19	16	1
	226	TOTAL	2	6	8	17	63	55	42	31	2
	110	MALE	0	1	6	5	36	23	18	14	7
037	115	FEMALE	2	2	4	5	48	22	16	11	5
	225	TOTAL	2	3	10	10	84	45	34	25	12
	110	MALE	0	5	11	21	27	28	15	2	1
038	116	FEMALE	4	9	6	22	28	26	16	4	1
	226	TOTAL	4	14	17	43	55	54	31	6	2
	110	MALE	3	4	11	10	14	18	30	15	5
039	116	FEMALE	2	5	9	16	8	18	30	20	8
	226	TOTAL	5	9	20	26	22	36	60	35	13
	109	MALE	1	11	19	30	20	17	7	4	0
040	116	FEMALE	3	17	25	28	18	16	7	1	1
	225	TOTAL	4	28	44	58	38	33	14	5	1
	110	MALE	2	17	33	24	15	12	3	3	1
041	117	FEMALE	6	20	34	26	14	8	4	3	2
	227	TOTAL	8	37	67	50	29	20	7	6	3
	110	MALE	2	9	11	22	28	19	11	8	0
042	116	FEMALE	4	11	19	23	23	15	11	8	2
	226	TOTAL	6	20	30	45	51	34	22	16	2
	109	MALE	3	9	21	31	28	10	5	1	1
043	116	FEMALE	5	17	21	27	29	8	8	1	0
	225	TOTAL	8	26	42	58	57	18	13	2	1
	109	MALE	6	15	24	21	29	11	3	0	0
044	115	FEMALE	9	7	27	25	32	9	3	2	1
	224	TOTAL	15	22	51	46	61	20	6	2	1

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	3	3	12	19	28	21	18	4	2
045	117	FEMALE	1	6	13	24	25	26	17	5	0
	227	TOTAL	4	9	25	43	53	47	35	9	2
	109	MALE	0	0	4	3	21	24	30	21	6
046	116	FEMALE	0	2	1	1	13	20	39	28	12
	225	TOTAL	0	2	5	4	34	44	69	49	18
	110	MALE	6	4	14	29	41	10	4	2	0
047	117	FEMALE	3	11	16	29	43	9	5	0	1
	227	TOTAL	9	15	30	58	84	19	9	2	1
	109	MALE	7	8	16	26	30	13	7	2	0
048	117	FEMALE	8	14	25	28	28	7	5	1	1
	226	TOTAL	15	22	41	54	58	20	12	3	1
	110	MALE	3	6	10	10	22	16	19	18	6
049	117	FEMALE	5	8	8	9	18	11	25	27	6
	227	TOTAL	8	14	18	19	40	27	44	45	12
	110	MALE	14	12	16	13	39	7	5	4	0
050	117	FEMALE	16	18	14	10	40	8	7	3	1
	227	TOTAL	30	30	30	23	79	15	12	7	1
	110	MALE	1	1	2	10	23	20	24	23	6
051	117	FEMALE	1	1	0	6	23	19	39	25	3
	227	TOTAL	2	2	2	16	46	39	63	48	9
	110	MALE	2	9	26	19	17	13	12	10	2
052	116	FEMALE	3	19	33	24	5	15	9	8	0
	226	TOTAL	5	28	59	43	22	28	21	18	2
	110	MALE	8	7	12	15	33	11	13	7	4
053	117	FEMALE	7	14	13	16	28	15	8	12	4
	227	TOTAL	15	21	25	31	61	26	21	19	8
	109	MALE	1	0	1	8	16	29	38	14	2
054	117	FEMALE	0	2	0	6	18	21	41	25	4
	226	TOTAL	1	2	1	14	34	50	79	39	6
	110	MALE	1	0	9	11	31	25	17	10	6
055	117	FEMALE	2	3	2	17	37	23	22	9	2
	227	TOTAL	3	3	11	28	68	48	39	19	8
	110	MALE	4	6	9	8	32	25	16	8	2
056	117	FEMALE	10	5	5	15	25	28	18	11	0
	227	TOTAL	14	11	14	23	57	53	34	19	2
	110	MALE	0	0	2	5	12	22	41	23	5
057	116	FEMALE	1	1	2	4	12	22	37	32	5
	226	TOTAL	1	1	4	9	24	44	78	55	10
	109	MALE	6	10	16	12	27	14	12	7	5
058	117	FEMALE	2	12	11	17	35	13	9	15	3
	226	TOTAL	8	22	27	29	62	27	21	22	8
	110	MALE	2	13	23	16	13	17	18	5	3
059	116	FEMALE	6	11	25	21	37	18	16	11	1
	226	TOTAL	8	24	48	37	50	35	34	16	4

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	1	5	16	45	20	12	4	7
060	116	FEMALE	0	4	5	14	51	28	9	3	2
	226	TOTAL	0	5	10	30	96	48	21	7	9
	110	MALE	5	12	26	29	20	6	9	1	2
061	115	FEMALE	5	17	34	27	16	6	8	2	0
	225	TOTAL	10	29	60	56	36	12	17	3	2
	108	MALE	3	9	14	33	32	10	3	3	1
062	117	FEMALE	1	11	24	22	39	7	8	3	2
	225	TOTAL	4	20	38	55	71	17	11	6	3
	110	MALE	0	4	1	3	41	26	14	12	9
063	117	FEMALE	0	7	4	10	41	23	18	11	3
	227	TOTAL	0	11	5	13	82	49	32	23	12
	110	MALE	0	1	6	9	15	17	36	20	6
064	117	FEMALE	1	5	9	10	10	28	25	25	4
	227	TOTAL	1	6	15	19	25	45	61	45	10
	110	MALE	0	0	2	11	26	13	21	24	13
065	116	FEMALE	4	3	6	4	33	7	17	27	15
	226	TOTAL	4	3	8	15	59	20	38	51	28
	110	MALE	4	9	8	10	34	22	11	7	5
066	117	FEMALE	9	11	13	22	26	10	21	5	0
	227	TOTAL	13	20	21	32	60	32	32	12	5
	110	MALE	3	12	30	20	23	10	7	4	1
067	117	FEMALE	3	21	32	28	8	7	7	9	2
	227	TOTAL	6	33	62	48	31	17	14	13	3
	110	MALE	1	2	7	13	40	23	15	8	1
068	117	FEMALE	0	4	6	17	42	30	9	8	1
	227	TOTAL	1	6	13	30	82	53	24	16	2
	110	MALE	8	6	7	14	27	12	12	17	7
069	117	FEMALE	6	5	15	14	25	13	19	19	1
	227	TOTAL	14	11	22	28	52	25	31	36	8
	108	MALE	4	4	11	11	49	16	9	2	2
070	115	FEMALE	6	3	9	19	45	27	3	3	0
	223	TOTAL	10	7	20	30	94	43	12	5	2
	110	MALE	0	1	9	13	17	30	25	13	2
071	117	FEMALE	2	3	7	22	15	25	28	12	3
	227	TOTAL	2	4	16	35	32	55	53	25	5
	110	MALE	4	8	24	24	28	11	9	1	1
072	117	FEMALE	2	11	31	35	20	7	5	5	1
	227	TOTAL	6	19	55	59	48	18	14	6	2
	110	MALE	1	0	0	2	14	7	28	36	22
073	117	FEMALE	2	1	1	4	4	11	25	39	30
	227	TOTAL	3	1	1	6	18	18	53	75	52
	110	MALE	7	8	24	19	25	14	8	2	3
074	116	FEMALE	3	5	6	13	17	15	21	25	11
	226	TOTAL	10	13	30	32	42	29	29	27	14

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	1	6	15	13	32	30	10	2
075	117	FEMALE	1	0	5	12	22	35	26	11	5
	226	TOTAL	1	1	11	27	35	67	56	21	7
	110	MALE	3	17	33	27	12	8	8	1	1
076	117	FEMALE	3	24	31	31	13	8	4	3	0
	227	TOTAL	6	41	64	58	25	16	12	4	1
	110	MALE	3	1	8	10	34	22	23	5	4
077	117	FEMALE	3	1	9	17	30	23	18	12	4
	227	TOTAL	6	2	17	27	64	45	41	17	8
	110	MALE	1	0	10	6	34	30	22	4	3
078	116	FEMALE	2	0	8	9	37	26	16	15	3
	226	TOTAL	3	0	18	15	71	56	38	19	6
	110	MALE	1	3	7	5	15	32	30	16	1
079	116	FEMALE	1	2	5	8	14	38	33	11	4
	226	TOTAL	2	5	12	13	29	70	63	27	5
	108	MALE	1	0	5	7	22	30	30	11	2
080	116	FEMALE	4	5	9	10	23	29	26	7	3
	224	TOTAL	5	5	14	17	45	59	56	18	5
	107	MALE	2	2	8	11	28	29	16	6	5
081	117	FEMALE	3	2	6	10	42	33	15	6	0
	224	TOTAL	5	4	14	21	70	62	31	12	5
	109	MALE	7	33	23	15	13	5	10	0	3
082	117	FEMALE	8	35	33	21	5	7	5	2	1
	226	TOTAL	15	68	56	36	18	12	15	2	4
	108	MALE	0	0	1	3	11	15	34	34	10
083	117	FEMALE	1	1	1	2	12	19	31	39	11
	225	TOTAL	1	1	2	5	23	34	65	73	21
	109	MALE	6	20	18	13	14	14	13	10	1
084	117	FEMALE	9	19	26	19	9	13	8	11	3
	226	TOTAL	15	39	44	32	23	27	21	21	4
	109	MALE	4	17	13	9	30	15	14	5	2
085	117	FEMALE	10	13	22	16	24	11	12	6	3
	226	TOTAL	14	30	35	25	54	26	26	11	5
	109	MALE	11	25	30	12	11	8	8	2	2
086	117	FEMALE	16	39	24	11	7	9	5	5	1
	226	TOTAL	27	64	54	23	18	17	13	7	3
	109	MALE	2	3	11	12	39	24	12	4	2
087	116	FEMALE	2	2	7	14	47	24	15	5	0
	225	TOTAL	4	5	18	26	86	48	27	9	2
	106	MALE	1	1	1	4	16	26	38	18	1
088	116	FEMALE	1	0	1	5	13	27	39	24	6
	222	TOTAL	2	1	2	9	29	53	77	42	7
	109	MALE	0	2	3	5	17	33	30	15	4
089	117	FEMALE	1	2	3	12	21	23	28	26	1
	226	TOTAL	1	4	6	17	38	56	58	41	5

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	108	MALE	1	3	16	40	13	19	8	7	1
090	117	FEMALE	0	5	15	40	24	15	10	7	1
	225	TOTAL	1	8	31	80	37	34	18	14	2
	109	MALE	2	9	16	20	22	18	15	5	2
091	117	FEMALE	4	15	23	25	10	27	9	3	1
	226	TOTAL	6	24	39	45	32	45	24	8	3
	109	MALE	2	2	6	14	39	20	21	3	2
092	115	FEMALE	3	3	2	12	34	25	27	9	0
	224	TOTAL	5	5	8	26	73	45	48	12	2
	109	MALE	0	3	8	14	18	24	33	6	3
093	117	FEMALE	1	0	8	20	21	24	25	15	3
	226	TOTAL	1	3	16	34	39	48	58	21	6
	108	MALE	2	5	30	24	17	16	10	4	0
094	115	FEMALE	3	16	29	25	12	16	6	8	0
	223	TOTAL	5	21	59	49	29	32	16	12	0
	109	MALE	3	4	8	18	31	14	14	12	5
095	115	FEMALE	3	5	7	12	43	19	14	6	6
	224	TOTAL	6	9	15	30	74	33	28	18	11
	108	MALE	1	2	9	21	26	25	11	10	3
096	116	FEMALE	2	7	12	22	28	21	16	7	1
	224	TOTAL	3	9	21	43	54	46	27	17	4
	109	MALE	3	5	13	7	16	22	29	11	3
097	117	FEMALE	3	6	8	16	15	24	27	16	2
	226	TOTAL	6	11	21	23	31	46	56	27	5
	109	MALE	5	4	4	7	36	17	13	14	9
098	117	FEMALE	4	3	9	10	38	13	22	13	5
	226	TOTAL	9	7	13	17	74	30	35	27	14
	109	MALE	1	0	5	2	20	20	36	20	5
099	116	FEMALE	1	2	4	7	13	24	36	23	6
	225	TOTAL	2	2	9	9	33	44	72	43	11
	109	MALE	1	7	34	26	15	11	12	2	1
100	117	FEMALE	2	10	35	23	15	14	10	7	1
	226	TOTAL	3	17	69	49	30	25	22	9	2
	109	MALE	4	0	1	6	26	18	31	16	7
101	117	FEMALE	1	2	5	1	16	15	36	26	15
	226	TOTAL	5	2	6	7	42	33	67	42	22
	109	MALE	0	5	12	16	20	21	21	9	5
102	117	FEMALE	2	7	20	16	21	16	17	14	4
	226	TOTAL	2	12	32	32	41	37	38	23	9
	108	MALE	2	1	4	10	41	22	18	8	2
103	117	FEMALE	2	4	8	9	50	20	14	7	3
	225	TOTAL	4	5	12	19	91	42	32	15	5
	110	MALE	7	27	33	12	13	3	9	5	1
104	116	FEMALE	16	38	25	17	8	3	2	5	2
	226	TOTAL	23	65	58	29	21	6	11	10	4

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	5	18	18	18	29	17	3	1
105	115	FEMALE	0	0	14	30	29	22	16	3	1
	225	TOTAL	1	5	32	48	47	51	33	6	2
	110	MALE	4	16	29	18	23	9	8	2	1
106	116	FEMALE	12	30	25	23	10	8	4	4	0
	226	TOTAL	16	46	54	41	33	17	12	6	1
	109	MALE	1	3	4	3	18	23	38	16	3
107	116	FEMALE	0	1	2	2	17	27	36	28	3
	225	TOTAL	1	4	6	5	35	50	74	44	6
	110	MALE	2	3	18	26	41	9	8	3	0
108	116	FEMALE	3	8	15	29	48	5	5	3	0
	226	TOTAL	5	11	33	55	89	14	13	6	0
	108	MALE	2	4	5	15	14	17	23	19	9
109	116	FEMALE	1	6	10	9	10	23	31	23	3
	224	TOTAL	3	10	15	24	24	40	54	42	12
	109	MALE	14	18	20	14	23	9	6	3	2
110	116	FEMALE	13	29	24	17	15	4	7	6	1
	225	TOTAL	27	47	44	31	38	13	13	9	3
	108	MALE	4	8	23	26	19	11	9	5	3
111	114	FEMALE	3	15	27	26	20	10	5	6	2
	222	TOTAL	7	23	50	52	39	21	14	11	5
	110	MALE	1	3	4	3	5	11	35	41	7
112	116	FEMALE	1	2	1	3	9	16	30	42	12
	226	TOTAL	2	5	5	6	14	27	65	83	19
	110	MALE	1	2	5	5	15	18	31	24	9
113	115	FEMALE	0	4	5	2	23	15	29	26	11
	225	TOTAL	1	6	10	7	38	33	60	50	20
	109	MALE	4	11	19	23	34	8	7	2	1
114	116	FEMALE	5	15	19	25	33	10	4	5	0
	225	TOTAL	9	26	38	48	67	18	11	7	1
	109	MALE	2	5	8	9	29	14	21	12	9
115	116	FEMALE	4	1	10	11	42	12	15	16	5
	225	TOTAL	6	6	18	20	71	26	36	28	14
	109	MALE	1	0	7	5	24	30	28	10	4
116	115	FEMALE	2	1	7	7	19	39	29	11	0
	224	TOTAL	3	1	14	12	43	69	57	21	4
	108	MALE	1	8	15	25	22	15	15	3	4
117	115	FEMALE	2	5	19	15	22	29	12	9	2
	223	TOTAL	3	13	34	40	44	44	27	12	6
	110	MALE	0	4	8	17	24	25	22	8	2
118	116	FEMALE	8	4	4	13	21	35	23	8	0
	226	TOTAL	8	8	12	30	45	60	45	16	2
	110	MALE	1	1	5	10	52	20	11	8	2
119	116	FEMALE	2	2	5	9	52	20	16	8	2
	226	TOTAL	3	3	10	19	104	40	27	16	4

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	2	14	28	27	20	13	3	2
120	116	FEMALE	0	1	14	34	32	17	14	4	0
	226	TOTAL	1	3	28	62	59	37	27	7	2
	110	MALE	8	19	30	16	20	6	5	5	1
121	117	FEMALE	14	27	26	19	10	12	5	3	1
	227	TOTAL	22	46	56	35	30	18	10	8	2
	109	MALE	2	1	3	10	15	24	34	18	2
122	115	FEMALE	0	1	4	7	13	24	41	22	3
	224	TOTAL	2	2	7	17	28	48	75	40	5
	109	MALE	8	13	28	22	21	5	8	3	1
123	116	FEMALE	14	19	31	21	13	7	5	5	1
	225	TOTAL	22	32	59	43	34	12	13	8	2
	109	MALE	1	4	10	15	26	27	17	6	3
124	117	FEMALE	0	3	10	20	21	26	20	15	2
	226	TOTAL	1	7	20	35	47	53	37	21	5
	110	MALE	1	11	18	28	38	6	5	1	2
125	116	FEMALE	4	14	22	24	29	10	5	7	1
	226	TOTAL	5	25	40	52	67	16	10	8	3
	110	MALE	0	2	5	10	22	30	30	6	5
126	116	FEMALE	2	1	2	1	22	35	29	22	2
	226	TOTAL	2	3	7	11	44	65	59	28	7
	110	MALE	3	4	7	15	22	23	25	9	2
127	117	FEMALE	4	10	13	14	22	28	15	10	1
	227	TOTAL	7	14	20	29	44	51	40	19	3
	110	MALE	0	4	6	3	43	19	24	6	5
128	116	FEMALE	1	2	7	7	54	17	16	8	4
	226	TOTAL	1	6	13	10	97	36	40	14	9
	110	MALE	0	2	13	29	27	20	12	5	2
129	115	FEMALE	1	2	18	37	28	17	9	3	0
	225	TOTAL	1	4	31	66	55	37	21	8	2
	110	MALE	4	4	2	8	56	17	5	10	4
130	116	FEMALE	3	3	5	6	63	23	7	2	4
	226	TOTAL	7	7	7	14	119	40	12	12	8
	108	MALE	2	1	7	7	22	34	16	15	4
131	116	FEMALE	0	4	3	8	28	37	25	9	2
	224	TOTAL	2	5	10	15	50	71	41	24	6
	110	MALE	3	3	6	19	28	28	17	4	2
132	116	FEMALE	2	2	6	16	35	24	20	8	3
	226	TOTAL	5	5	12	35	63	52	37	12	5
	109	MALE	3	4	10	16	37	16	9	12	2
133	117	FEMALE	1	5	8	21	38	22	9	7	6
	226	TOTAL	4	9	18	37	75	38	18	19	8
	110	MALE	1	1	7	16	23	35	18	6	3
134	116	FEMALE	0	2	7	23	26	24	25	5	4
	226	TOTAL	1	3	14	39	49	59	43	11	7

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	3	9	13	15	20	36	14	0
135	115	FEMALE	1	5	6	17	13	30	34	8	1
	225	TOTAL	1	8	15	30	28	50	70	22	1
	110	MALE	1	6	20	16	28	21	15	2	1
136	116	FEMALE	1	8	28	31	17	16	10	5	0
	226	TOTAL	2	14	48	47	45	37	25	7	1
	110	MALE	0	0	3	17	29	26	22	10	3
137	117	FEMALE	1	2	3	8	30	20	28	21	4
	227	TOTAL	1	2	6	25	59	46	50	31	7
	110	MALE	5	22	29	17	14	9	9	4	1
138	117	FEMALE	3	26	28	23	13	8	10	4	2
	227	TOTAL	8	48	57	40	27	17	19	8	3
	110	MALE	5	5	20	13	20	18	22	7	0
139	117	FEMALE	7	13	11	16	21	13	18	14	4
	227	TOTAL	12	18	31	29	41	31	40	21	4
	109	MALE	1	2	1	12	32	27	23	7	4
140	117	FEMALE	0	1	4	8	40	27	23	10	4
	226	TOTAL	1	3	5	20	72	54	46	17	8
	110	MALE	5	24	26	20	7	13	12	3	0
141	116	FEMALE	6	24	31	19	8	14	6	7	1
	226	TOTAL	11	48	57	39	15	27	18	10	1
	110	MALE	4	19	23	32	12	11	4	3	2
142	117	FEMALE	10	22	34	20	17	9	4	1	0
	227	TOTAL	14	41	57	52	29	20	8	4	2
	110	MALE	2	2	17	12	20	22	24	8	3
143	116	FEMALE	4	8	17	10	26	20	17	13	1
	226	TOTAL	6	10	34	22	46	42	41	21	4
	110	MALE	4	3	7	7	18	27	29	13	2
144	117	FEMALE	10	4	5	5	26	19	30	16	2
	227	TOTAL	14	7	12	12	44	46	59	29	4
	110	MALE	4	5	6	8	14	15	30	26	2
145	117	FEMALE	2	2	6	19	10	17	31	23	7
	227	TOTAL	6	7	12	27	24	32	61	49	9
	110	MALE	2	5	11	10	24	23	21	14	0
146	117	FEMALE	2	4	2	17	21	36	22	10	3
	227	TOTAL	4	9	13	27	45	59	43	24	3
	108	MALE	2	12	23	34	18	11	6	2	0
147	117	FEMALE	3	7	41	35	13	11	6	1	0
	225	TOTAL	5	19	64	69	31	22	12	3	0
	110	MALE	2	2	4	12	17	23	31	17	2
148	117	FEMALE	1	3	5	20	17	26	30	11	4
	227	TOTAL	3	5	9	32	34	49	61	28	6
	109	MALE	4	4	10	19	51	14	5	0	2
149	117	FEMALE	4	4	2	18	58	20	8	2	1
	226	TOTAL	8	8	12	37	109	34	13	2	3

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	0	2	1	11	22	31	32	10
150	115	FEMALE	2	1	2	3	8	24	39	25	11
	225	TOTAL	3	1	4	4	19	46	70	57	21
	109	MALE	12	19	21	10	30	8	4	4	1
151	117	FEMALE	21	16	25	15	21	3	6	6	4
	226	TOTAL	33	35	46	25	51	11	10	10	5
	109	MALE	2	1	5	9	34	23	27	7	1
152	117	FEMALE	1	2	11	16	33	28	20	6	0
	226	TOTAL	3	3	16	25	67	51	47	13	1
	110	MALE	0	1	1	6	26	28	24	16	8
153	117	FEMALE	0	2	6	8	39	28	21	9	4
	227	TOTAL	0	3	7	14	65	56	45	25	12
	110	MALE	5	1	2	7	47	20	10	9	9
154	116	FEMALE	6	4	4	6	51	21	8	11	5
	226	TOTAL	11	5	6	13	98	41	18	20	14
	110	MALE	0	1	2	6	58	19	11	10	3
155	116	FEMALE	2	2	4	3	65	22	14	2	2
	226	TOTAL	2	3	6	9	123	41	25	12	5
	110	MALE	4	10	25	24	22	12	11	1	1
156	117	FEMALE	9	11	23	36	24	8	4	2	0
	227	TOTAL	13	21	48	60	46	20	15	3	1
	109	MALE	2	8	31	19	20	16	10	3	0
157	117	FEMALE	6	14	36	23	11	12	10	4	1
	226	TOTAL	8	22	67	42	31	28	20	7	1
	110	MALE	6	19	28	19	22	8	4	3	1
158	117	FEMALE	3	25	33	23	14	8	7	2	2
	227	TOTAL	9	44	61	42	36	16	11	5	3
	110	MALE	2	4	20	27	39	11	4	3	0
159	117	FEMALE	0	4	26	43	28	12	1	3	0
	227	TOTAL	2	8	46	70	67	23	5	6	0
	109	MALE	1	2	1	7	19	26	23	21	9
160	115	FEMALE	1	0	3	3	19	16	37	24	12
	224	TOTAL	2	2	4	10	38	42	60	45	21
	108	MALE	3	7	8	29	44	7	9	1	0
161	116	FEMALE	4	4	16	30	50	8	3	0	1
	224	TOTAL	7	11	24	59	94	15	12	1	1
	109	MALE	2	4	17	21	16	12	22	12	3
162	117	FEMALE	0	7	11	17	16	21	26	15	4
	226	TOTAL	2	11	28	38	32	33	48	27	7
	110	MALE	0	1	5	4	20	25	27	22	6
163	117	FEMALE	1	1	6	4	33	23	35	10	4
	227	TOTAL	1	2	11	8	53	48	62	32	10
	110	MALE	0	3	3	3	22	26	32	17	4
164	115	FEMALE	1	0	1	4	25	24	33	22	5
	225	TOTAL	1	3	4	7	47	50	65	39	9

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	6	10	9	14	28	27	14	2
165	116	FEMALE	3	4	12	21	13	21	21	17	4
	226	TOTAL	3	10	22	30	27	49	48	31	6
	110	MALE	5	8	19	37	19	13	4	4	1
166	117	FEMALE	1	5	34	33	24	3	8	7	2
	227	TOTAL	6	13	53	70	43	16	12	11	3
	110	MALE	4	7	4	7	28	28	22	9	1
167	115	FEMALE	2	9	8	10	24	37	17	5	3
	225	TOTAL	6	16	12	17	52	65	39	14	4
	110	MALE	10	16	25	16	29	6	3	3	2
168	116	FEMALE	16	17	27	17	20	7	4	5	3
	226	TOTAL	26	33	52	33	49	13	7	8	5
	110	MALE	0	2	4	2	20	33	27	15	7
169	117	FEMALE	4	3	1	2	18	33	30	19	7
	227	TOTAL	4	5	5	4	38	66	57	34	14
	110	MALE	1	2	4	7	14	16	27	33	6
170	116	FEMALE	1	3	3	7	13	18	28	31	12
	226	TOTAL	2	5	7	14	27	34	55	64	18
	110	MALE	2	12	30	25	22	4	9	6	0
171	117	FEMALE	2	12	33	35	15	8	10	1	1
	227	TOTAL	4	24	63	60	37	12	19	7	1
	110	MALE	4	6	22	25	22	11	15	4	1
172	117	FEMALE	2	10	25	33	16	17	11	3	0
	227	TOTAL	6	16	47	58	38	28	26	7	1
	110	MALE	2	1	6	4	27	36	18	12	4
173	117	FEMALE	1	1	3	3	32	32	26	13	6
	227	TOTAL	3	2	9	7	59	68	44	25	10
	110	MALE	3	2	2	6	46	18	11	16	6
174	117	FEMALE	2	5	2	4	53	26	14	6	5
	227	TOTAL	5	7	4	10	99	44	25	22	11
	110	MALE	2	2	3	13	44	18	15	8	5
175	117	FEMALE	2	4	4	6	46	37	11	4	3
	227	TOTAL	4	6	7	19	90	55	26	12	8
	109	MALE	0	1	5	11	24	32	18	14	4
176	117	FEMALE	2	4	6	11	26	34	16	13	5
	226	TOTAL	2	5	11	22	50	66	34	27	9
	110	MALE	0	0	1	10	32	18	22	18	9
177	117	FEMALE	2	2	4	2	33	14	24	21	15
	227	TOTAL	2	2	5	12	65	32	46	39	24
	110	MALE	0	0	6	8	34	32	11	11	8
178	115	FEMALE	0	4	4	11	35	30	17	13	1
	225	TOTAL	0	4	10	19	69	62	28	24	9
	110	MALE	4	8	26	32	19	9	7	5	0
179	117	FEMALE	2	7	31	31	23	11	10	2	0
	227	TOTAL	6	15	57	63	42	20	17	7	0

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	10	32	31	10	8	17	0	1
180	117	FEMALE	2	11	32	42	8	11	9	2	0
	227	TOTAL	3	21	64	73	18	19	26	2	1
	110	MALE	0	1	2	5	14	22	50	15	1
181	117	FEMALE	2	2	1	12	6	43	38	10	3
	227	TOTAL	2	3	3	17	20	65	88	25	4
	110	MALE	8	16	24	20	26	8	4	2	2
182	117	FEMALE	11	25	25	18	21	6	7	3	1
	227	TOTAL	19	41	49	38	47	14	11	5	3
	110	MALE	0	0	8	7	24	29	22	15	5
183	117	FEMALE	2	5	4	10	25	22	26	19	4
	227	TOTAL	2	5	12	17	49	51	48	34	9
	110	MALE	10	9	28	17	33	4	9	0	0
184	117	FEMALE	12	13	23	25	24	7	7	5	1
	227	TOTAL	22	22	51	42	57	11	16	5	1
	110	MALE	2	2	2	10	36	27	15	10	6
185	117	FEMALE	1	4	2	9	43	28	19	7	4
	227	TOTAL	3	6	4	19	79	55	34	17	10
	110	MALE	3	9	22	35	32	6	2	1	0
186	116	FEMALE	1	11	27	38	20	11	6	2	0
	226	TOTAL	4	20	49	73	52	17	8	3	0
	109	MALE	0	2	2	8	40	23	22	7	5
187	117	FEMALE	2	4	5	11	43	30	17	5	0
	226	TOTAL	2	6	7	19	83	53	39	12	5
	110	MALE	1	2	4	5	33	24	26	11	4
188	117	FEMALE	2	3	2	9	44	31	18	7	1
	227	TOTAL	3	5	6	14	77	55	44	18	5
	110	MALE	6	7	29	28	27	4	4	4	1
189	117	FEMALE	6	15	31	30	18	7	5	3	2
	227	TOTAL	12	22	60	58	45	11	9	7	3
	110	MALE	1	3	2	13	36	31	11	9	4
190	116	FEMALE	1	5	5	9	39	35	14	3	5
	226	TOTAL	2	8	7	22	75	66	25	12	9
	109	MALE	4	10	33	25	17	11	5	3	1
191	117	FEMALE	7	17	34	21	14	13	6	5	0
	226	TOTAL	11	27	67	46	31	24	11	8	1
	110	MALE	0	1	4	4	38	24	14	17	8
192	117	FEMALE	2	2	4	9	43	32	14	7	4
	227	TOTAL	2	3	8	13	81	56	28	24	12
	110	MALE	1	2	7	3	50	20	9	10	8
193	116	FEMALE	3	3	3	5	56	24	12	7	3
	226	TOTAL	4	5	10	8	106	44	21	17	11
	110	MALE	7	14	20	23	31	4	7	4	0
194	115	FEMALE	11	14	18	25	26	11	5	4	1
	225	TOTAL	18	28	38	48	57	15	12	8	1

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	0	6	9	17	28	34	11	4
195	117	FEMALE	0	3	6	11	25	30	31	7	4
	226	TOTAL	0	3	12	20	42	58	65	18	8
	109	MALE	0	1	2	5	22	21	32	21	5
196	117	FEMALE	2	3	1	4	21	28	35	13	10
	226	TOTAL	2	4	3	9	43	49	67	34	15
	109	MALE	2	12	30	17	27	8	8	5	0
197	117	FEMALE	6	13	30	21	24	8	9	3	3
	226	TOTAL	8	25	60	38	51	16	17	8	3
	110	MALE	0	0	3	16	37	26	16	10	2
198	114	FEMALE	0	2	8	11	33	36	16	6	2
	224	TOTAL	0	2	11	27	70	62	32	16	4
	110	MALE	2	1	5	3	31	27	27	11	3
199	117	FEMALE	1	2	3	0	31	25	26	20	9
	227	TOTAL	3	3	8	3	62	52	53	31	12
	110	MALE	3	12	29	23	21	9	9	1	3
200	117	FEMALE	13	13	33	16	16	12	6	4	4
	227	TOTAL	16	25	62	39	37	21	15	5	7
	109	MALE	5	18	22	21	24	10	7	1	1
201	117	FEMALE	4	21	28	24	15	12	7	4	2
	226	TOTAL	9	39	50	45	39	22	14	5	3
	110	MALE	13	20	21	15	24	9	5	1	2
202	116	FEMALE	23	34	17	14	13	3	7	4	1
	226	TOTAL	36	54	38	29	37	12	12	5	3
	110	MALE	1	1	3	11	37	30	15	9	3
203	117	FEMALE	2	1	6	10	33	29	25	7	4
	227	TOTAL	3	2	9	21	70	59	40	16	7
	110	MALE	3	1	3	4	25	37	29	2	6
204	117	FEMALE	1	3	3	6	38	27	25	13	1
	227	TOTAL	4	4	6	10	63	64	54	15	7
	110	MALE	6	10	18	14	25	16	13	7	1
205	116	FEMALE	8	13	24	16	25	12	12	4	2
	226	TOTAL	14	23	42	30	50	28	25	11	3
	110	MALE	4	7	9	8	22	20	19	17	4
206	116	FEMALE	1	8	11	13	27	12	25	15	4
	226	TOTAL	5	15	20	21	49	32	44	32	8
	109	MALE	0	3	2	1	24	28	31	10	10
207	116	FEMALE	0	0	1	4	24	28	31	22	6
	225	TOTAL	0	3	3	5	48	56	62	32	16
	110	MALE	1	3	4	2	15	23	40	16	6
208	116	FEMALE	4	6	1	8	18	33	27	14	5
	226	TOTAL	5	9	5	10	33	56	67	30	11
	110	MALE	12	18	20	13	25	6	8	3	5
209	116	FEMALE	17	36	22	6	16	7	5	6	1
	226	TOTAL	29	54	42	19	41	13	13	9	6

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	4	8	9	19	52	8	6	1	2
210	117	FEMALE	5	10	20	19	52	6	4	1	0
	226	TOTAL	9	18	29	38	104	14	10	2	2
	108	MALE	6	9	18	18	37	9	7	4	0
211	117	FEMALE	4	11	24	29	40	5	4	0	0
	225	TOTAL	10	20	42	47	77	14	11	4	0
	109	MALE	3	17	31	19	20	9	6	3	1
212	117	FEMALE	7	28	30	20	11	12	5	3	1
	226	TOTAL	10	45	61	39	31	21	11	6	2
	110	MALE	5	15	20	24	32	4	5	3	2
213	117	FEMALE	13	19	18	30	19	9	5	4	0
	227	TOTAL	18	34	38	54	51	13	10	7	2
	110	MALE	2	3	7	16	32	25	13	9	3
214	117	FEMALE	3	6	7	13	40	26	16	5	1
	227	TOTAL	5	9	14	29	72	51	29	14	4
	109	MALE	6	15	13	14	28	9	16	6	2
215	117	FEMALE	17	21	16	18	24	8	6	1	6
	226	TOTAL	23	36	29	32	52	17	22	7	8
	110	MALE	2	11	24	17	35	12	4	4	1
216	114	FEMALE	5	17	25	21	25	11	4	2	4
	224	TOTAL	7	28	49	38	60	23	8	6	5
	110	MALE	0	12	28	27	14	12	13	2	2
217	116	FEMALE	5	8	37	27	11	7	13	6	2
	226	TOTAL	5	20	65	54	25	19	26	8	4
	110	MALE	4	5	7	8	23	23	25	12	3
218	117	FEMALE	11	13	5	8	14	24	22	12	8
	227	TOTAL	15	18	12	16	37	47	47	24	11
	109	MALE	2	0	6	6	25	34	25	6	5
219	117	FEMALE	3	8	3	2	36	31	25	8	1
	226	TOTAL	5	8	9	8	61	65	50	14	6
	108	MALE	0	2	2	7	27	21	17	16	16
220	117	FEMALE	2	4	4	5	27	11	19	21	24
	225	TOTAL	2	6	6	12	54	32	36	37	40
	110	MALE	1	1	3	4	27	31	29	12	2
221	117	FEMALE	2	1	4	4	35	32	24	11	4
	227	TOTAL	3	2	7	8	62	63	53	23	6
	108	MALE	0	4	10	6	18	26	33	7	4
222	116	FEMALE	1	3	9	6	16	37	31	9	4
	224	TOTAL	1	7	19	12	34	63	64	16	8
	110	MALE	2	2	2	4	20	18	33	22	7
223	117	FEMALE	6	4	2	3	26	19	31	19	7
	227	TOTAL	8	6	4	7	46	37	64	41	14
	109	MALE	2	2	12	14	28	21	20	7	3
224	116	FEMALE	1	10	16	21	18	22	14	11	3
	225	TOTAL	3	12	28	35	46	43	34	18	6

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	1	4	22	27	40	13	2	0
225	117	FEMALE	0	1	5	28	29	39	12	0	3
	227	TOTAL	1	2	9	50	56	79	25	2	3
	108	MALE	0	3	5	17	26	25	26	4	2
226	117	FEMALE	0	6	8	21	22	29	19	9	3
	225	TOTAL	0	9	13	38	48	54	45	13	5
	110	MALE	3	11	15	12	52	7	6	3	1
227	117	FEMALE	5	6	14	21	57	9	3	0	2
	227	TOTAL	8	17	29	33	109	16	9	3	3
	109	MALE	0	1	2	5	14	27	35	22	3
228	117	FEMALE	0	2	4	8	23	30	35	12	3
	226	TOTAL	0	3	6	13	37	57	70	34	6
	108	MALE	2	0	3	8	20	34	28	11	2
229	117	FEMALE	0	4	11	8	23	36	20	13	2
	225	TOTAL	2	4	14	16	43	70	48	24	4
	110	MALE	2	1	5	11	34	29	17	9	2
230	117	FEMALE	1	1	7	20	40	22	19	4	3
	227	TOTAL	3	2	12	31	74	51	36	13	5
	110	MALE	1	0	3	2	19	33	38	13	1
231	114	FEMALE	0	3	1	3	22	36	33	11	5
	224	TOTAL	1	3	4	5	41	69	71	24	6
	109	MALE	2	5	11	12	22	16	24	13	4
232	117	FEMALE	3	5	17	11	23	28	15	11	4
	226	TOTAL	5	10	28	23	45	44	39	24	8
	110	MALE	2	4	4	5	11	24	29	21	10
233	117	FEMALE	2	0	4	10	16	22	32	23	8
	227	TOTAL	4	4	8	15	27	46	61	44	18
	110	MALE	1	2	6	13	19	30	29	10	0
234	117	FEMALE	1	1	8	17	18	32	26	11	3
	227	TOTAL	2	3	14	30	37	62	55	21	3
	110	MALE	1	1	2	6	15	16	35	27	7
235	117	FEMALE	0	4	1	4	7	24	34	31	12
	227	TOTAL	1	5	3	10	22	40	69	58	19
	108	MALE	1	8	25	25	20	14	9	4	2
236	116	FEMALE	2	12	40	28	10	10	12	2	0
	224	TOTAL	3	20	65	53	30	24	21	6	2
	109	MALE	3	8	16	21	28	18	9	5	1
237	116	FEMALE	3	10	20	32	26	15	8	2	0
	225	TOTAL	6	18	36	53	54	33	17	7	1
	109	MALE	2	4	19	15	26	20	12	6	5
238	117	FEMALE	3	6	19	22	24	21	16	4	2
	226	TOTAL	5	10	38	37	50	41	28	10	7
	110	MALE	1	4	19	26	32	14	7	4	3
239	117	FEMALE	5	7	31	23	27	11	6	3	4
	227	TOTAL	6	11	50	49	59	25	13	7	7

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	2	2	8	8	21	18	29	14	7
240	116	FEMALE	4	8	7	8	15	28	26	16	4
	225	TOTAL	6	10	15	16	36	46	55	30	11
	107	MALE	2	7	10	32	25	15	13	2	1
241	117	FEMALE	1	9	14	29	38	9	10	5	2
	224	TOTAL	3	16	24	61	63	24	23	7	3
	110	MALE	1	1	4	8	40	30	16	8	2
242	117	FEMALE	0	4	2	14	38	28	23	6	2
	227	TOTAL	1	5	6	22	78	58	39	14	4
	109	MALE	1	0	1	12	35	25	20	9	6
243	116	FEMALE	1	4	3	9	41	35	17	5	1
	225	TOTAL	2	4	4	21	76	60	37	14	7
	110	MALE	0	3	9	24	23	22	19	9	1
244	116	FEMALE	0	7	17	29	22	24	11	4	2
	226	TOTAL	0	10	26	53	45	46	30	13	3
	110	MALE	0	5	21	24	28	15	10	7	0
245	117	FEMALE	3	13	28	26	14	23	5	3	2
	227	TOTAL	3	18	49	50	42	38	15	10	2
	109	MALE	5	8	13	21	50	8	4	0	0
246	117	FEMALE	7	9	12	34	46	3	3	3	0
	226	TOTAL	12	17	25	55	96	11	7	3	0
	110	MALE	3	4	22	27	19	19	12	3	1
247	117	FEMALE	1	7	26	26	21	18	9	9	0
	227	TOTAL	4	11	48	53	40	37	21	12	1
	110	MALE	0	3	4	7	21	27	31	13	4
248	117	FEMALE	0	4	1	9	14	32	40	14	3
	227	TOTAL	0	7	5	16	35	59	71	27	7
	110	MALE	6	7	15	11	32	10	11	15	3
249	117	FEMALE	5	7	13	15	35	8	17	13	4
	227	TOTAL	11	14	28	26	67	18	28	28	7
	108	MALE	1	0	9	11	21	18	24	22	2
250	117	FEMALE	0	4	6	13	7	28	25	25	9
	225	TOTAL	1	4	15	24	28	46	49	47	11
	110	MALE	5	10	23	22	38	7	4	1	0
251	117	FEMALE	7	12	22	33	32	5	3	2	1
	227	TOTAL	12	22	45	55	70	12	7	3	1
	110	MALE	4	10	26	24	19	9	10	6	2
252	117	FEMALE	7	23	26	22	17	7	11	4	0
	227	TOTAL	11	33	52	46	36	16	21	10	2
	110	MALE	0	6	15	18	18	19	27	5	2
253	117	FEMALE	0	4	10	17	25	33	23	4	1
	227	TOTAL	0	10	25	35	43	52	50	9	3
	110	MALE	0	2	4	14	20	31	22	15	2
254	117	FEMALE	3	4	11	14	20	28	25	10	2
	227	TOTAL	3	6	15	28	40	59	47	25	4

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	3	12	16	27	27	11	10	2	2
255	117	FEMALE	7	7	19	38	22	15	7	1	1
	227	TOTAL	10	19	35	65	49	26	17	3	3
	110	MALE	1	8	18	2	40	10	6	3	2
256	116	FEMALE	7	11	14	16	40	14	5	9	0
	226	TOTAL	8	19	32	38	80	24	11	12	2
	110	MALE	0	1	1	0	9	15	47	28	9
257	117	FEMALE	1	0	2	2	4	14	35	45	14
	227	TOTAL	1	1	3	2	13	29	82	73	23
	110	MALE	3	3	4	9	29	14	14	17	17
258	117	FEMALE	1	4	3	6	33	9	17	21	23
	227	TOTAL	4	7	7	15	62	23	31	38	40
	110	MALE	1	7	23	37	19	10	8	4	1
259	116	FEMALE	3	3	30	44	13	13	5	4	1
	226	TOTAL	4	10	53	81	32	23	13	8	2
	109	MALE	1	8	18	36	32	7	4	1	2
260	117	FEMALE	8	7	21	32	37	5	3	3	1
	226	TOTAL	9	15	39	68	69	12	7	4	3
	109	MALE	2	4	7	19	36	27	8	5	1
261	117	FEMALE	2	3	11	12	34	30	18	4	3
	226	TOTAL	4	7	18	31	70	57	26	9	4
	110	MALE	1	1	5	18	25	27	25	8	0
262	117	FEMALE	2	4	4	9	27	30	33	7	1
	227	TOTAL	3	5	9	27	52	57	58	15	1
	110	MALE	2	4	15	19	45	10	10	5	0
263	117	FEMALE	3	7	15	29	46	12	3	2	0
	227	TOTAL	5	11	30	48	91	22	13	7	0
	109	MALE	0	0	0	3	8	8	19	43	28
264	117	FEMALE	2	3	2	2	3	7	28	38	32
	226	TOTAL	2	3	2	5	11	15	47	81	60
	109	MALE	2	10	11	8	13	14	24	18	9
265	115	FEMALE	7	10	13	14	8	17	24	19	3
	224	TOTAL	9	20	24	22	21	31	48	37	12
	107	MALE	0	2	4	10	32	28	22	8	1
266	116	FEMALE	1	1	9	12	31	28	25	8	1
	223	TOTAL	1	3	13	22	63	56	47	16	2
	109	MALE	1	7	30	33	19	13	4	2	0
267	117	FEMALE	3	8	31	38	15	11	8	3	0
	226	TOTAL	4	15	61	71	34	24	12	5	0
	108	MALE	0	1	8	13	26	29	23	5	3
268	117	FEMALE	0	2	8	12	25	32	25	11	2
	225	TOTAL	0	3	16	25	51	61	48	16	5
	108	MALE	2	4	6	7	10	25	23	24	7
269	117	FEMALE	1	6	7	4	17	10	34	24	14
	225	TOTAL	3	10	13	11	27	35	57	48	21

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	4	4	6	10	21	18	34	11	1
270	117	FEMALE	3	3	10	14	30	24	21	10	2
	226	TOTAL	7	7	16	24	51	42	55	21	3
	109	MALE	2	5	10	10	14	18	24	21	5
271	117	FEMALE	1	5	8	15	11	25	30	18	4
	226	TOTAL	3	10	18	25	25	43	54	39	9
	109	MALE	0	1	1	5	18	24	32	21	7
272	117	FEMALE	0	1	0	4	20	33	32	19	8
	226	TOTAL	0	2	1	9	38	57	64	40	15
	109	MALE	4	6	15	32	38	6	6	1	1
273	115	FEMALE	4	5	15	33	48	5	3	2	0
	224	TOTAL	8	11	30	65	86	11	9	3	1
	109	MALE	1	1	4	7	41	25	15	9	6
274	117	FEMALE	1	3	2	2	46	34	14	12	3
	226	TOTAL	2	4	6	9	87	59	29	21	9
	108	MALE	20	19	26	6	22	4	7	3	1
275	116	FEMALE	30	24	29	12	7	3	2	8	1
	224	TOTAL	50	43	55	18	29	7	9	11	2
	109	MALE	0	0	5	7	37	24	18	12	6
276	116	FEMALE	2	1	4	4	38	19	26	14	8
	225	TOTAL	2	1	9	11	75	43	44	26	14
	109	MALE	0	3	5	9	35	24	29	1	3
277	117	FEMALE	2	6	5	13	24	31	23	11	2
	226	TOTAL	2	9	10	22	59	55	52	12	5
	109	MALE	1	13	29	27	21	9	7	2	0
278	117	FEMALE	3	12	48	27	9	4	8	5	1
	226	TOTAL	4	25	77	54	30	13	15	7	1
	108	MALE	1	1	6	12	58	13	13	4	0
279	115	FEMALE	0	6	10	15	63	18	2	1	0
	223	TOTAL	1	7	16	27	121	31	15	5	0
	108	MALE	2	3	4	16	20	22	30	10	1
280	117	FEMALE	2	5	13	15	20	22	23	15	2
	225	TOTAL	4	8	17	31	40	44	53	25	3
	108	MALE	1	3	4	10	52	23	9	4	2
281	117	FEMALE	0	4	4	18	65	19	4	2	1
	225	TOTAL	1	7	8	28	117	42	13	6	3
	110	MALE	2	1	8	10	33	30	18	6	2
282	117	FEMALE	1	7	17	14	25	28	17	6	2
	227	TOTAL	3	8	25	24	58	58	35	12	4
	110	MALE	1	2	3	2	26	35	26	12	3
283	117	FEMALE	3	1	1	8	30	31	30	9	4
	227	TOTAL	4	3	4	10	56	66	56	21	7
	110	MALE	3	15	20	31	17	12	8	3	1
284	117	FEMALE	10	18	34	21	10	9	8	6	1
	227	TOTAL	13	33	54	52	27	21	16	9	2

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	2	6	15	32	34	10	9	1
285	117	FEMALE	1	3	3	29	36	28	10	5	2
	227	TOTAL	2	5	9	44	68	62	20	14	3
	110	MALE	4	11	13	25	22	16	11	6	2
286	117	FEMALE	8	7	12	15	27	26	13	7	2
	227	TOTAL	12	18	25	40	49	42	24	13	4
	109	MALE	1	3	3	4	22	29	34	11	2
287	117	FEMALE	2	1	5	7	18	43	28	9	4
	226	TOTAL	3	4	8	11	40	72	62	20	6
	110	MALE	7	9	26	19	35	10	4	0	0
288	117	FEMALE	5	16	24	29	29	6	3	5	0
	227	TOTAL	12	25	50	48	64	16	7	5	0
	110	MALE	0	3	11	6	28	18	24	14	6
289	117	FEMALE	1	2	10	8	17	27	26	22	4
	227	TOTAL	1	5	21	14	45	45	50	36	10
	110	MALE	4	7	15	9	25	23	14	11	2
290	117	FEMALE	0	8	18	13	22	22	18	12	4
	227	TOTAL	4	15	33	22	47	45	32	23	6
	108	MALE	16	21	22	18	21	6	3	1	0
291	117	FEMALE	18	30	29	20	8	2	7	3	0
	225	TOTAL	34	51	51	38	29	8	10	4	0
	110	MALE	1	10	33	18	15	16	11	6	0
292	117	FEMALE	4	16	37	23	13	16	6	2	0
	227	TOTAL	5	26	70	41	28	32	17	8	0
	110	MALE	13	18	26	17	19	8	6	3	0
293	117	FEMALE	21	27	30	16	11	4	4	4	0
	227	TOTAL	34	45	56	33	30	12	10	7	0
	110	MALE	1	2	8	13	42	14	10	11	9
294	117	FEMALE	2	7	8	7	49	13	15	9	7
	227	TOTAL	3	9	16	20	91	27	25	20	16
	110	MALE	3	1	7	8	45	25	15	3	3
295	117	FEMALE	2	4	6	13	50	19	16	6	1
	227	TOTAL	5	5	13	21	95	44	31	9	4
	107	MALE	1	2	5	6	27	30	27	7	2
296	115	FEMALE	0	2	5	8	22	45	21	9	3
	222	TOTAL	1	4	10	14	49	75	48	16	5
	110	MALE	3	7	28	27	23	11	9	2	0
297	117	FEMALE	3	13	24	39	23	10	3	2	0
	227	TOTAL	6	20	52	66	46	21	12	4	0
	110	MALE	1	6	10	9	24	22	30	8	0
298	117	FEMALE	3	4	18	13	22	30	18	9	0
	227	TOTAL	4	10	28	22	46	52	48	17	0
	109	MALE	1	1	6	14	19	21	31	15	1
299	116	FEMALE	1	2	9	8	22	26	33	13	2
	225	TOTAL	2	3	15	22	41	47	64	28	3

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	108	MALE	1	0	6	19	39	14	14	12	3
300	116	FEMALE	5	6	10	13	39	19	11	11	2
	224	TOTAL	6	6	16	32	78	33	25	23	5
	108	MALE	1	14	32	25	22	7	5	2	0
301	116	FEMALE	3	20	35	20	23	7	5	3	0
	224	TOTAL	4	34	67	45	45	14	10	5	0
	109	MALE	1	2	9	11	33	20	15	12	6
302	116	FEMALE	2	5	3	13	47	22	13	4	7
	225	TOTAL	3	7	12	24	80	42	28	16	13
	109	MALE	3	7	23	27	15	17	9	6	2
303	116	FEMALE	4	8	28	28	20	13	5	7	3
	225	TOTAL	7	15	51	55	35	30	14	13	5
	109	MALE	3	19	37	14	13	11	9	2	1
304	116	FEMALE	4	19	32	28	10	10	7	4	2
	225	TOTAL	7	38	69	42	23	21	16	6	3
	109	MALE	7	12	27	24	22	11	3	3	0
305	116	FEMALE	6	19	35	21	20	9	5	1	0
	225	TOTAL	13	31	62	45	42	20	8	4	0
	109	MALE	2	2	7	21	33	26	6	6	6
306	116	FEMALE	5	4	14	15	34	22	14	7	1
	225	TOTAL	7	6	21	36	67	48	20	13	7
	109	MALE	3	7	20	20	18	18	16	5	2
307	116	FEMALE	3	12	17	19	17	20	21	5	2
	225	TOTAL	6	19	37	39	35	38	37	10	4
	108	MALE	1	8	8	16	24	19	22	6	4
308	115	FEMALE	2	3	14	16	23	26	21	7	3
	223	TOTAL	3	11	22	32	47	45	43	13	7
	109	MALE	0	1	3	7	31	34	22	10	1
309	115	FEMALE	0	1	9	4	25	41	21	11	3
	224	TOTAL	0	2	12	11	56	75	43	21	4
	108	MALE	0	1	2	4	43	22	25	9	2
310	116	FEMALE	1	2	2	8	34	33	24	9	3
	224	TOTAL	1	3	4	12	77	55	49	18	5
	105	MALE	1	4	9	16	32	24	16	2	1
311	116	FEMALE	7	5	6	21	32	28	10	6	1
	221	TOTAL	8	9	15	37	64	52	26	8	2
	109	MALE	1	8	19	26	23	17	10	4	1
312	115	FEMALE	5	16	25	16	21	19	7	5	1
	224	TOTAL	6	24	44	42	44	36	17	9	2
	108	MALE	1	4	12	10	20	26	17	14	4
313	115	FEMALE	1	3	7	12	27	24	22	17	2
	223	TOTAL	2	7	19	22	47	50	39	31	6
	109	MALE	0	4	19	21	31	16	15	3	0
314	116	FEMALE	2	9	22	25	30	16	6	5	1
	225	TOTAL	2	13	41	46	61	32	21	8	1

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	9	23	26	15	23	3	7	3	0
315	116	FEMALE	16	28	30	8	16	4	8	3	3
	225	TOTAL	25	51	56	23	39	7	15	6	3
	110	MALE	1	3	8	11	21	31	27	6	2
316	117	FEMALE	2	1	12	23	16	29	21	11	2
	227	TOTAL	3	4	20	34	37	60	48	17	4
	110	MALE	1	5	15	26	21	17	17	5	3
317	117	FEMALE	2	4	17	37	15	22	15	4	1
	227	TOTAL	3	9	32	63	36	39	32	9	4
	110	MALE	0	0	1	5	24	27	35	14	4
318	117	FEMALE	0	1	3	5	17	29	32	26	4
	227	TOTAL	0	1	4	10	41	56	67	40	8
	109	MALE	2	4	19	13	30	25	13	3	0
319	116	FEMALE	1	5	16	14	21	31	25	3	0
	225	TOTAL	3	9	35	27	51	56	38	6	0
	109	MALE	0	4	7	14	41	28	9	6	0
320	116	FEMALE	2	1	15	15	45	19	12	4	3
	225	TOTAL	2	5	22	29	86	47	21	10	3
	109	MALE	4	10	41	19	14	11	9	0	1
321	116	FEMALE	3	6	28	39	15	12	9	4	0
	225	TOTAL	7	16	69	58	29	23	18	4	1
	108	MALE	0	7	15	28	22	16	16	2	2
322	116	FEMALE	1	5	25	27	25	21	9	3	0
	224	TOTAL	1	12	40	55	47	37	25	5	2
	110	MALE	2	2	10	23	38	21	11	2	1
323	117	FEMALE	1	9	22	29	41	8	6	1	0
	227	TOTAL	3	11	32	52	79	29	17	3	1
	110	MALE	7	7	15	15	40	7	10	6	3
324	117	FEMALE	9	9	13	19	35	15	4	6	7
	227	TOTAL	16	16	28	34	75	22	14	12	10
	109	MALE	1	3	19	38	27	15	5	1	0
325	117	FEMALE	3	10	34	29	24	11	4	1	1
	226	TOTAL	4	13	53	67	51	26	9	2	1
	109	MALE	6	14	22	23	25	10	8	1	0
326	117	FEMALE	7	17	26	24	27	6	6	4	0
	226	TOTAL	13	31	48	47	52	16	14	5	0
	109	MALE	2	12	22	20	15	17	16	3	2
327	117	FEMALE	4	13	31	22	15	16	11	3	2
	226	TOTAL	6	25	53	42	30	33	27	6	4
	110	MALE	1	9	20	36	21	10	10	3	0
328	117	FEMALE	1	6	21	50	20	12	4	3	0
	227	TOTAL	2	15	41	86	41	22	14	6	0
	110	MALE	3	3	11	14	44	13	14	6	2
329	117	FEMALE	5	3	9	19	49	18	8	5	1
	227	TOTAL	8	6	20	33	93	31	22	11	3

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	4	0	2	6	49	14	16	14	5
330	116	FEMALE	1	3	3	4	55	32	7	7	4
	226	TOTAL	5	3	5	10	104	46	23	21	9
	110	MALE	9	19	25	16	18	11	8	3	1
331	116	FEMALE	12	19	32	13	21	7	8	3	1
	226	TOTAL	21	38	57	29	39	18	16	6	2
	110	MALE	1	9	18	24	45	5	5	3	0
332	117	FEMALE	5	10	19	32	38	7	4	2	0
	227	TOTAL	6	19	37	56	83	12	9	5	0
	110	MALE	3	14	28	21	22	15	2	4	1
333	116	FEMALE	12	18	32	19	20	5	8	2	0
	226	TOTAL	15	32	60	40	42	20	10	6	1
	110	MALE	4	7	13	21	51	9	4	1	0
334	117	FEMALE	6	8	19	23	51	6	4	0	0
	227	TOTAL	10	15	32	44	102	15	8	1	0
	110	MALE	2	6	20	31	23	20	3	4	1
335	116	FEMALE	3	5	23	35	26	11	10	2	1
	226	TOTAL	5	11	43	66	49	31	13	6	2
	110	MALE	2	8	9	11	17	21	34	8	0
336	117	FEMALE	1	8	14	8	16	29	30	9	2
	227	TOTAL	3	16	23	19	33	50	64	17	2
	110	MALE	5	6	32	27	18	15	5	2	0
337	116	FEMALE	5	14	29	28	15	11	8	5	1
	226	TOTAL	10	20	61	55	33	26	13	7	1
	110	MALE	0	9	18	31	26	17	6	2	1
338	116	FEMALE	5	9	26	20	26	10	12	5	3
	226	TOTAL	5	18	44	51	52	27	18	7	4
	109	MALE	31	27	12	5	17	6	8	3	0
339	117	FEMALE	41	24	16	5	12	5	6	5	3
	226	TOTAL	72	51	28	10	29	11	14	8	3
	110	MALE	2	3	16	14	21	30	18	4	2
340	115	FEMALE	0	4	16	15	22	27	16	11	4
	225	TOTAL	2	7	32	29	43	57	34	15	6
	110	MALE	3	4	11	24	40	17	7	4	0
341	116	FEMALE	3	7	13	20	38	18	11	3	3
	226	TOTAL	6	11	24	44	78	35	18	7	3
	108	MALE	2	4	12	25	29	19	14	1	2
342	116	FEMALE	3	8	24	29	26	14	7	2	3
	224	TOTAL	5	12	36	54	55	33	21	3	5
	110	MALE	0	8	22	29	24	11	14	2	0
343	116	FEMALE	3	9	19	37	21	15	7	3	2
	226	TOTAL	3	17	41	66	45	26	21	5	2
	110	MALE	4	27	29	15	15	12	6	2	0
344	116	FEMALE	8	28	32	15	18	8	3	3	1
	226	TOTAL	12	55	61	30	33	20	9	5	1

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	6	11	20	28	32	8	4	1	0
345	117	FEMALE	13	10	30	23	25	9	6	1	0
	227	TOTAL	19	21	50	51	57	17	10	2	0
	110	MALE	3	2	14	21	48	9	9	2	2
346	117	FEMALE	4	11	14	33	41	10	3	1	0
	227	TOTAL	7	13	28	54	89	19	12	3	2
	110	MALE	1	5	7	5	36	19	24	9	4
347	116	FEMALE	1	0	6	10	32	32	18	13	4
	226	TOTAL	2	5	13	15	68	51	42	22	8
	108	MALE	1	7	15	19	14	29	16	6	1
348	116	FEMALE	0	5	12	32	21	27	16	2	1
	224	TOTAL	1	12	27	51	35	56	32	8	2
	109	MALE	2	3	16	19	39	19	0	1	1
349	116	FEMALE	3	10	21	36	30	12	3	1	0
	225	TOTAL	5	13	37	55	69	31	12	2	1
	110	MALE	5	7	21	28	31	10	5	3	0
350	117	FEMALE	7	14	24	26	30	7	5	4	0
	227	TOTAL	12	21	45	54	61	17	10	7	0
	110	MALE	4	18	24	25	23	8	6	2	0
351	117	FEMALE	9	17	34	26	12	11	6	2	0
	227	TOTAL	13	35	58	51	35	19	12	4	0
	110	MALE	5	16	39	19	15	7	8	0	1
352	116	FEMALE	6	25	32	23	13	7	6	3	1
	226	TOTAL	11	41	71	42	28	14	14	3	2
	110	MALE	1	2	3	15	11	25	38	12	3
353	116	FEMALE	2	3	5	3	17	26	27	27	6
	226	TOTAL	3	5	8	18	28	51	65	39	9
	109	MALE	7	5	37	23	22	7	6	2	0
354	115	FEMALE	7	16	39	25	18	3	3	4	0
	224	TOTAL	14	21	76	48	40	10	9	6	0
	110	MALE	3	8	8	11	22	19	19	11	9
355	117	FEMALE	5	11	9	6	19	14	22	20	11
	227	TOTAL	8	19	17	17	41	33	41	31	20
	109	MALE	1	6	18	39	23	13	6	2	1
356	116	FEMALE	2	8	25	37	27	9	7	1	0
	225	TOTAL	3	14	43	76	50	22	13	3	1
	110	MALE	5	17	34	23	13	8	6	3	1
357	117	FEMALE	5	31	34	17	10	12	5	3	0
	227	TOTAL	10	48	68	40	23	20	11	6	1
	110	MALE	6	8	25	21	31	11	4	4	0
358	116	FEMALE	5	15	22	28	24	13	7	2	0
	226	TOTAL	11	23	47	49	55	24	11	6	0
	110	MALE	3	7	30	24	31	8	4	3	0
359	116	FEMALE	5	15	22	35	27	8	1	2	1
	226	TOTAL	8	22	52	59	58	16	5	5	1

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	6	18	32	22	19	9	4	0	0
360	117	FEMALE	12	30	30	17	16	2	8	2	0
	227	TOTAL	18	48	62	39	35	11	12	2	0
	110	MALE	2	10	34	30	18	7	8	1	0
361	117	FEMALE	3	12	41	19	19	10	8	4	1
	227	TOTAL	5	22	75	49	37	17	16	5	1
	110	MALE	0	9	24	27	18	11	16	3	2
362	117	FEMALE	3	11	28	29	17	13	11	3	2
	227	TOTAL	3	20	52	56	35	24	27	6	4
	110	MALE	13	17	19	16	21	14	7	1	2
363	116	FEMALE	16	22	23	15	16	9	9	6	0
	226	TOTAL	29	39	42	31	37	23	16	7	2
	110	MALE	5	12	28	18	28	10	8	0	1
364	116	FEMALE	9	23	29	12	24	7	8	4	0
	226	TOTAL	14	35	57	30	52	17	16	4	1
	109	MALE	3	5	26	29	28	7	9	2	0
365	116	FEMALE	5	12	26	30	26	5	11	1	0
	225	TOTAL	8	17	52	59	54	12	20	3	0
	109	MALE	3	15	25	24	22	12	4	3	1
366	116	FEMALE	7	18	25	27	20	11	7	1	0
	225	TOTAL	10	33	50	51	42	23	11	4	1
	110	MALE	1	2	4	4	30	24	25	14	6
367	117	FEMALE	3	1	10	6	28	25	24	14	6
	227	TOTAL	4	3	14	10	58	49	49	28	12
	109	MALE	1	17	28	16	17	18	9	2	1
368	116	FEMALE	3	12	36	24	18	10	8	4	1
	225	TOTAL	4	29	64	40	35	28	17	6	2
	110	MALE	0	1	2	6	35	29	22	10	5
369	116	FEMALE	1	1	3	5	44	19	24	16	3
	226	TOTAL	1	2	5	11	79	48	46	26	8
	110	MALE	2	1	7	11	37	22	20	7	3
370	115	FEMALE	0	3	6	16	25	27	22	12	4
	225	TOTAL	2	4	13	27	62	49	42	19	7
	109	MALE	2	2	5	14	20	36	21	7	2
371	113	FEMALE	0	2	6	9	17	38	32	7	2
	222	TOTAL	2	4	11	23	37	74	53	14	4
	110	MALE	2	1	2	10	32	26	26	9	2
372	116	FEMALE	0	1	4	12	33	25	23	14	4
	226	TOTAL	2	2	6	22	65	51	49	23	6
	110	MALE	3	0	7	8	22	17	28	17	8
373	117	FEMALE	6	3	2	4	36	12	20	28	6
	227	TOTAL	9	3	9	12	58	29	48	45	14
	110	MALE	0	1	12	39	36	9	8	3	2
374	116	FEMALE	0	3	17	41	27	20	8	0	0
	226	TOTAL	0	4	29	80	63	29	16	3	2

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	10	27	27	21	16	4	2	1
375	117	FEMALE	3	13	31	31	17	13	6	1	2
	227	TOTAL	5	23	58	58	38	29	10	3	3
	107	MALE	0	1	7	11	38	25	17	7	1
376	117	FEMALE	1	4	6	10	48	32	9	6	1
	224	TOTAL	1	5	13	21	86	57	26	13	2
	110	MALE	4	7	29	28	15	15	9	3	0
377	116	FEMALE	3	14	34	32	12	11	7	2	1
	226	TOTAL	7	21	63	60	27	26	16	5	1
	110	MALE	0	4	6	11	31	24	22	7	5
378	116	FEMALE	2	6	7	12	30	14	23	19	3
	226	TOTAL	2	10	13	23	61	38	45	26	8
	107	MALE	0	0	6	7	33	29	26	4	2
379	117	FEMALE	1	1	4	22	24	28	26	8	3
	224	TOTAL	1	1	10	29	57	57	52	12	5
	108	MALE	0	1	7	4	11	17	49	17	2
380	116	FEMALE	0	1	3	10	11	23	43	19	6
	224	TOTAL	0	2	10	14	22	40	92	36	8
	109	MALE	0	6	7	8	13	27	33	13	2
381	117	FEMALE	0	4	7	14	14	21	30	17	10
	226	TOTAL	0	10	14	22	27	48	63	30	12
	110	MALE	0	6	29	23	22	15	13	1	1
382	115	FEMALE	4	8	35	26	16	15	8	2	1
	225	TOTAL	4	14	64	49	38	30	21	3	2
	109	MALE	0	3	19	23	21	20	20	1	2
383	117	FEMALE	1	7	24	28	14	20	16	6	1
	226	TOTAL	1	10	43	51	35	40	36	7	3
	109	MALE	1	4	28	29	19	12	11	3	2
384	117	FEMALE	2	14	36	28	15	10	10	1	1
	226	TOTAL	3	18	64	57	34	22	21	4	3
	110	MALE	2	12	19	35	28	6	5	2	1
385	116	FEMALE	6	10	18	33	31	7	8	2	1
	226	TOTAL	8	22	37	68	59	13	13	4	2
	110	MALE	2	2	4	6	17	28	40	10	1
386	116	FEMALE	2	6	4	14	15	30	31	8	6
	226	TOTAL	4	8	8	20	32	58	71	18	7
	109	MALE	0	4	10	9	31	29	17	5	4
387	117	FEMALE	6	3	10	14	36	25	15	6	2
	226	TOTAL	6	7	20	23	67	54	32	11	6
	110	MALE	5	11	29	37	14	7	6	0	1
388	117	FEMALE	8	18	39	26	6	6	7	5	2
	227	TOTAL	13	29	68	63	20	13	13	5	3
	109	MALE	2	10	38	23	22	9	5	0	0
389	117	FEMALE	4	13	44	23	17	8	6	2	0
	226	TOTAL	6	23	82	46	39	17	11	2	0

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	6	19	31	25	21	5	1	1
390	117	FEMALE	0	6	25	31	21	21	11	1	1
	226	TOTAL	0	12	44	62	46	42	16	2	2
	109	MALE	2	0	2	4	19	30	33	13	6
391	116	FEMALE	2	3	3	4	20	28	31	14	11
	225	TOTAL	4	3	5	8	39	58	64	27	17
	110	MALE	7	7	31	30	19	5	8	2	1
392	115	FEMALE	7	16	29	25	14	10	6	6	2
	225	TOTAL	14	23	60	55	33	15	14	8	3
	110	MALE	10	8	5	7	18	12	27	16	7
393	117	FEMALE	13	10	10	2	15	14	12	19	22
	227	TOTAL	23	18	15	9	33	26	39	35	29
	110	MALE	0	3	28	20	20	20	15	2	2
394	117	FEMALE	1	11	25	32	18	15	13	1	1
	227	TOTAL	1	14	53	52	38	35	28	3	3
	110	MALE	3	12	19	26	27	12	8	2	1
395	116	FEMALE	4	16	31	20	18	15	6	6	0
	226	TOTAL	7	28	50	46	45	27	14	8	1
	110	MALE	2	7	25	25	28	16	5	2	0
396	116	FEMALE	6	15	31	25	21	11	4	3	0
	226	TOTAL	8	22	56	50	49	27	9	5	0
	110	MALE	3	17	28	29	19	7	5	1	1
397	117	FEMALE	8	29	29	20	13	8	4	5	1
	227	TOTAL	11	46	57	49	32	15	9	6	2
	110	MALE	2	10	27	27	19	12	9	2	2
398	116	FEMALE	7	22	26	20	21	9	8	1	2
	226	TOTAL	9	32	53	47	40	21	17	3	4
	110	MALE	0	1	10	8	24	32	25	9	1
399	115	FEMALE	3	7	8	13	22	32	21	8	1
	225	TOTAL	3	8	18	21	46	64	46	17	2
	110	MALE	0	2	4	11	21	25	27	16	4
400	116	FEMALE	0	0	3	8	13	25	31	24	12
	226	TOTAL	0	2	7	19	34	50	58	40	16
	110	MALE	0	2	5	4	32	28	21	11	7
401	117	FEMALE	0	2	3	8	31	24	26	17	6
	227	TOTAL	0	4	8	12	63	52	47	28	13
	109	MALE	0	2	15	33	25	17	13	3	1
402	116	FEMALE	1	1	16	24	28	26	14	4	2
	225	TOTAL	1	3	31	57	53	43	27	7	3
	110	MALE	1	1	2	4	22	24	32	19	5
403	116	FEMALE	1	1	5	2	19	20	38	23	7
	226	TOTAL	2	2	7	6	41	44	70	42	12
	110	MALE	1	3	13	19	22	26	14	11	1
404	116	FEMALE	1	1	14	25	14	25	28	6	2
	226	TOTAL	2	4	27	44	36	51	42	17	3

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	2	3	6	50	18	15	8	8
405	115	FEMALE	2	4	3	4	59	20	9	10	4
	225	TOTAL	2	6	6	10	109	38	24	18	12
	109	MALE	1	2	3	9	15	26	30	18	5
406	115	FEMALE	1	1	6	9	18	24	38	13	5
	224	TOTAL	2	3	9	18	33	50	68	31	10
	110	MALE	0	1	6	5	17	34	29	14	4
407	115	FEMALE	3	1	4	9	22	36	32	7	1
	225	TOTAL	3	2	10	14	39	70	61	21	5
	109	MALE	2	13	23	25	11	18	8	6	3
408	116	FEMALE	1	15	30	30	7	11	13	6	3
	225	TOTAL	3	28	53	55	18	29	21	12	6
	110	MALE	0	5	9	18	26	20	19	11	2
409	115	FEMALE	3	5	11	25	16	23	17	8	7
	225	TOTAL	3	10	20	43	42	43	36	19	9
	110	MALE	1	0	4	4	16	18	36	29	2
410	115	FEMALE	1	3	5	8	7	28	32	23	8
	225	TOTAL	2	3	9	12	23	46	68	52	10
	110	MALE	1	11	28	22	17	11	10	9	1
411	116	FEMALE	2	18	38	19	13	14	8	2	2
	226	TOTAL	3	29	66	41	30	25	18	11	3
	109	MALE	0	3	7	7	36	23	19	10	4
412	114	FEMALE	2	1	5	3	27	41	25	9	1
	223	TOTAL	2	4	12	10	63	64	44	19	5
	109	MALE	12	23	25	10	16	10	9	1	3
413	115	FEMALE	35	25	14	14	11	3	8	5	0
	224	TOTAL	47	48	39	24	27	13	17	6	3
	109	MALE	3	14	23	27	17	11	10	4	0
414	116	FEMALE	11	19	31	18	12	10	9	6	0
	225	TOTAL	14	33	54	45	29	21	19	10	0
	110	MALE	1	1	4	7	16	22	27	23	9
415	115	FEMALE	1	1	2	6	10	24	29	27	15
	225	TOTAL	2	2	6	13	26	46	56	50	24
	109	MALE	2	7	22	25	17	15	11	9	1
416	113	FEMALE	4	1	22	28	16	17	13	9	3
	222	TOTAL	6	8	44	53	33	32	24	18	4
	109	MALE	1	4	6	8	11	22	31	24	2
417	115	FEMALE	1	4	6	8	9	23	37	22	5
	224	TOTAL	2	8	12	16	20	45	68	46	7
	110	MALE	9	17	28	22	16	5	9	4	0
418	116	FEMALE	11	34	31	13	13	7	6	0	1
	226	TOTAL	20	51	59	35	29	12	15	4	1
	110	MALE	5	7	4	6	35	24	23	5	1
419	116	FEMALE	6	5	6	15	37	24	17	6	0
	226	TOTAL	11	12	10	21	72	48	40	11	1

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	5	5	10	14	48	12	12	3	1
420	117	FEMALE	7	6	10	17	50	15	11	1	0
	227	TOTAL	12	11	20	31	98	27	23	4	1
	110	MALE	3	2	9	20	49	14	10	2	1
421	117	FEMALE	1	2	15	23	51	13	4	4	4
	227	TOTAL	4	4	24	43	100	27	14	6	5
	109	MALE	3	6	25	37	20	11	5	1	1
422	116	FEMALE	8	6	28	33	23	9	6	3	0
	225	TOTAL	11	12	53	70	43	20	11	4	1
	109	MALE	3	2	2	5	39	25	22	7	4
423	117	FEMALE	1	4	4	5	43	30	21	4	5
	226	TOTAL	4	6	6	10	82	55	43	11	9
	110	MALE	0	1	12	17	42	17	15	3	3
424	117	FEMALE	2	5	9	19	43	11	19	5	4
	227	TOTAL	2	6	21	36	85	28	34	8	7
	110	MALE	0	2	7	17	41	20	16	3	4
425	116	FEMALE	1	0	6	13	50	23	12	6	5
	226	TOTAL	1	2	13	30	91	43	28	9	9
	110	MALE	0	1	6	3	16	22	39	21	2
426	117	FEMALE	0	2	3	8	8	34	40	16	6
	227	TOTAL	0	3	9	11	24	56	79	37	8
	110	MALE	0	4	30	35	23	6	8	3	1
427	116	FEMALE	3	4	30	40	19	10	5	3	2
	226	TOTAL	3	8	60	75	42	16	13	6	3
	110	MALE	1	1	4	4	40	29	25	3	3
428	117	FEMALE	2	0	5	3	38	32	25	8	4
	227	TOTAL	3	1	9	7	78	61	50	11	7
	110	MALE	0	0	6	7	30	27	30	8	2
429	115	FEMALE	1	2	4	4	37	33	22	9	3
	225	TOTAL	1	2	10	11	67	60	52	17	5
	108	MALE	0	1	3	5	25	21	27	17	9
430	115	FEMALE	1	2	0	4	33	30	23	16	6
	223	TOTAL	1	3	3	9	58	51	50	33	15
	110	MALE	0	7	30	31	15	13	8	4	2
431	117	FEMALE	0	6	42	29	13	12	9	6	0
	227	TOTAL	0	13	72	60	28	25	17	10	2
	109	MALE	1	2	4	1	18	19	43	15	6
432	115	FEMALE	0	3	3	5	15	18	34	32	5
	224	TOTAL	1	5	7	6	33	37	77	47	11
	110	MALE	4	5	23	16	31	19	9	3	0
433	115	FEMALE	7	7	19	26	36	10	7	1	2
	225	TOTAL	11	12	42	42	67	29	16	4	2
	110	MALE	3	1	2	7	25	27	31	9	5
434	117	FEMALE	6	5	2	5	26	35	20	14	4
	227	TOTAL	9	6	4	12	51	62	51	23	9

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	0	6	14	30	26	24	6	2
435	116	FEMALE	0	2	5	19	43	26	17	3	1
	226	TOTAL	2	2	11	33	73	52	41	9	3
	110	MALE	0	2	11	10	24	38	16	8	1
436	117	FEMALE	1	2	11	7	22	34	32	6	2
	227	TOTAL	1	4	22	17	46	72	48	14	3
	110	MALE	0	2	8	9	14	34	26	16	1
437	116	FEMALE	1	2	13	11	16	36	26	10	1
	226	TOTAL	1	4	21	20	30	70	52	26	2
	110	MALE	2	6	7	13	22	23	25	9	3
438	117	FEMALE	0	5	11	11	13	32	27	12	6
	227	TOTAL	2	11	18	24	35	55	52	21	9
	110	MALE	0	3	12	28	18	26	17	5	1
439	116	FEMALE	2	6	20	26	21	26	7	5	3
	226	TOTAL	2	9	32	54	39	52	24	10	4
	110	MALE	0	1	4	6	32	37	21	6	3
440	117	FEMALE	1	2	3	6	38	39	17	6	5
	227	TOTAL	1	3	7	12	70	76	38	12	8
	110	MALE	1	0	5	13	27	33	21	8	2
441	115	FEMALE	2	4	3	3	46	28	17	11	1
	225	TOTAL	3	4	8	16	73	61	38	19	3
	110	MALE	0	6	27	34	16	18	8	1	0
442	117	FEMALE	5	12	23	30	22	13	3	6	3
	227	TOTAL	5	18	50	64	38	31	11	7	3
	110	MALE	5	15	33	22	13	13	6	3	0
443	115	FEMALE	5	19	40	29	9	11	1	1	0
	225	TOTAL	10	34	73	51	22	24	7	4	0
	110	MALE	3	2	22	36	22	11	9	5	0
444	117	FEMALE	3	3	27	36	17	15	11	3	2
	227	TOTAL	6	5	49	72	39	26	20	8	2
	110	MALE	0	4	1	8	24	32	29	9	3
445	117	FEMALE	0	1	4	6	25	46	26	4	5
	227	TOTAL	0	5	5	14	49	78	55	13	8
	110	MALE	2	1	5	6	25	38	26	5	2
446	116	FEMALE	2	4	6	7	19	52	20	3	3
	226	TOTAL	4	5	11	13	44	90	46	8	5
	110	MALE	0	1	2	5	12	17	38	31	4
447	116	FEMALE	0	3	4	9	11	14	41	23	11
	226	TOTAL	0	4	6	14	23	31	79	54	15
	110	MALE	2	14	24	30	20	7	10	3	0
448	117	FEMALE	7	18	32	29	14	11	6	0	0
	227	TOTAL	9	32	56	59	34	18	16	3	0
	109	MALE	0	1	0	9	18	29	40	10	2
449	116	FEMALE	0	2	2	2	21	28	39	18	4
	225	TOTAL	0	3	2	11	39	57	79	28	6

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	1	1	4	18	36	35	12	2
450	115	FEMALE	0	1	5	3	17	25	41	18	5
	224	TOTAL	0	2	6	7	35	61	76	30	7
	110	MALE	0	2	8	7	31	24	26	8	4
451	116	FEMALE	0	2	8	14	17	29	27	15	4
	226	TOTAL	0	4	16	21	48	53	53	23	8
	110	MALE	1	1	6	3	15	32	34	14	4
452	117	FEMALE	5	4	5	12	16	25	26	19	5
	227	TOTAL	6	5	11	15	31	57	60	33	9
	109	MALE	2	6	17	21	28	19	9	5	2
453	116	FEMALE	2	7	17	20	26	19	17	4	4
	225	TOTAL	4	13	34	41	54	38	26	9	6
	110	MALE	4	10	9	15	25	16	19	7	5
454	117	FEMALE	5	13	15	13	14	20	19	12	6
	227	TOTAL	9	23	24	28	39	36	38	19	11
	110	MALE	1	2	19	28	33	13	9	4	1
455	116	FEMALE	1	5	16	29	25	18	15	6	1
	226	TOTAL	2	7	35	57	58	31	24	10	2
	110	MALE	3	3	10	10	24	25	26	8	1
456	117	FEMALE	1	3	9	15	18	31	24	15	1
	227	TOTAL	4	6	19	25	42	56	50	23	2
	110	MALE	6	4	16	13	32	7	19	9	4
457	116	FEMALE	3	14	11	17	22	13	11	17	8
	226	TOTAL	9	18	27	30	54	20	30	26	12
	110	MALE	0	6	17	15	22	16	16	12	6
458	116	FEMALE	2	11	13	19	31	12	16	8	4
	226	TOTAL	2	17	30	34	53	28	32	20	10
	110	MALE	6	18	29	20	17	9	6	5	0
459	116	FEMALE	6	20	31	21	8	15	9	4	2
	226	TOTAL	12	38	60	41	25	24	15	9	2
	110	MALE	2	3	5	18	35	24	12	6	5
460	116	FEMALE	0	1	6	15	48	26	12	7	1
	226	TOTAL	2	4	11	33	83	50	24	13	6
	110	MALE	2	1	14	13	18	20	34	5	3
461	115	FEMALE	0	4	9	14	16	26	33	8	5
	225	TOTAL	2	5	23	27	34	46	67	13	8
	110	MALE	0	2	6	4	41	19	19	11	8
462	115	FEMALE	2	5	2	3	56	23	11	7	6
	225	TOTAL	2	7	8	7	97	42	30	18	14
	110	MALE	1	3	3	9	47	31	11	4	1
463	117	FEMALE	1	2	1	11	58	20	11	9	4
	227	TOTAL	2	5	4	20	105	51	22	13	5
	110	MALE	0	4	7	7	63	11	10	3	5
464	117	FEMALE	2	5	2	9	66	19	4	5	5
	227	TOTAL	2	9	9	16	129	30	14	8	10

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	1	14	24	33	15	16	4	2
465	116	FEMALE	2	1	22	23	35	21	5	5	2
	225	TOTAL	2	2	36	47	68	36	21	9	4
	110	MALE	0	4	5	14	28	26	13	13	7
466	116	FEMALE	0	1	10	9	36	26	20	10	4
	226	TOTAL	0	5	15	23	64	52	33	23	11
	110	MALE	1	5	9	19	51	13	8	3	1
467	116	FEMALE	1	6	15	20	45	21	5	3	0
	226	TOTAL	2	11	24	39	96	34	13	6	1
	110	MALE	1	6	22	31	18	20	8	3	1
468	117	FEMALE	0	7	18	43	20	16	10	2	1
	227	TOTAL	1	13	40	74	38	36	18	5	2
	110	MALE	0	1	12	13	24	26	23	9	2
469	117	FEMALE	3	3	12	8	18	28	23	18	4
	227	TOTAL	3	4	24	21	42	54	46	27	6
	110	MALE	6	9	17	22	27	13	9	5	2
470	117	FEMALE	8	11	23	14	29	6	11	12	3
	227	TOTAL	14	20	40	36	56	19	20	17	5
	110	MALE	5	6	10	8	41	19	16	3	2
471	115	FEMALE	3	11	11	21	34	16	12	6	1
	225	TOTAL	8	17	21	29	75	35	28	9	3
	110	MALE	2	3	7	13	29	21	24	6	5
472	116	FEMALE	4	2	8	11	31	26	21	9	4
	226	TOTAL	6	5	15	24	60	47	45	15	9
	110	MALE	2	9	31	31	18	6	11	1	1
473	116	FEMALE	4	19	26	33	10	12	9	1	2
	226	TOTAL	6	28	57	64	28	18	20	2	3
	110	MALE	0	1	7	10	53	13	19	5	2
474	117	FEMALE	1	4	7	7	62	20	9	4	3
	227	TOTAL	1	5	14	17	115	33	28	9	5
	110	MALE	0	6	9	27	21	24	16	6	1
475	117	FEMALE	4	6	19	25	15	27	17	4	0
	227	TOTAL	4	12	28	52	36	51	33	10	1
	110	MALE	10	7	6	11	29	11	18	6	12
476	117	FEMALE	13	8	6	5	38	14	14	10	9
	227	TOTAL	23	15	12	16	67	25	32	16	21
	109	MALE	4	11	16	11	15	17	19	13	3
477	117	FEMALE	5	13	16	14	15	17	18	16	3
	226	TOTAL	9	24	32	25	30	34	37	29	6
	110	MALE	0	1	1	14	35	30	21	8	0
478	117	FEMALE	1	3	2	10	31	35	27	4	4
	227	TOTAL	1	4	3	24	66	65	48	12	4
	110	MALE	1	1	2	11	14	38	28	14	1
479	117	FEMALE	2	1	5	3	15	41	33	13	4
	227	TOTAL	3	2	7	14	29	79	61	27	5

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	4	7	35	29	23	6	5	1	0
480	117	FEMALE	6	16	35	33	11	3	8	3	2
	227	TOTAL	10	23	70	62	34	9	13	4	2
	108	MALE	1	2	24	18	22	23	12	4	2
481	117	FEMALE	2	7	16	32	22	18	13	6	1
	225	TOTAL	3	9	40	50	44	41	25	10	3
	110	MALE	1	1	2	8	16	31	41	10	0
482	117	FEMALE	1	4	4	4	21	33	37	11	2
	227	TOTAL	2	5	6	12	37	64	78	21	2
	110	MALE	2	0	11	6	44	13	12	13	9
483	117	FEMALE	3	6	6	3	54	11	15	13	6
	227	TOTAL	5	6	17	9	98	24	27	26	15
	110	MALE	4	13	18	13	14	23	14	10	1
484	117	FEMALE	2	16	20	17	15	28	12	7	0
	227	TOTAL	6	29	38	30	29	51	26	17	1
	110	MALE	1	2	10	14	25	22	28	7	1
485	117	FEMALE	1	4	10	18	30	17	25	9	3
	227	TOTAL	2	6	20	32	55	39	53	16	4
	109	MALE	2	2	2	3	60	14	8	10	8
486	117	FEMALE	2	2	1	8	69	16	4	7	8
	226	TOTAL	4	4	3	11	129	30	12	17	16
	109	MALE	7	15	29	25	16	11	4	2	0
487	117	FEMALE	5	30	35	21	9	10	6	1	0
	226	TOTAL	12	45	64	46	25	21	10	3	0
	108	MALE	2	4	10	12	37	13	19	7	4
488	116	FEMALE	5	4	10	8	43	19	14	10	3
	224	TOTAL	7	8	20	20	80	32	33	17	7
	109	MALE	1	6	20	23	21	21	11	5	1
489	117	FEMALE	1	7	11	33	23	24	14	2	2
	226	TOTAL	2	13	31	56	44	45	25	7	3
	109	MALE	4	3	14	15	39	15	12	4	3
490	117	FEMALE	7	8	6	14	46	15	14	6	1
	226	TOTAL	11	11	20	29	85	30	26	10	4
	109	MALE	3	3	5	14	24	17	28	12	3
491	117	FEMALE	2	5	8	11	19	15	35	19	3
	226	TOTAL	5	8	13	25	43	32	63	31	6
	108	MALE	1	9	24	25	32	10	4	3	0
492	117	FEMALE	3	22	20	25	22	10	6	7	2
	225	TOTAL	4	31	44	50	54	20	10	10	2
	108	MALE	1	3	1	12	25	21	25	17	3
493	117	FEMALE	2	4	4	11	30	26	26	11	3
	225	TOTAL	3	7	5	23	55	47	51	28	6
	109	MALE	3	13	34	22	23	9	2	1	2
494	116	FEMALE	6	15	31	32	16	9	4	3	0
	225	TOTAL	9	28	65	54	39	18	6	4	2

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	3	5	3	13	20	41	22	2
495	117	FEMALE	0	1	1	3	8	27	45	26	6
	226	TOTAL	0	4	6	6	21	47	86	48	8
	109	MALE	3	0	7	4	62	10	13	7	3
496	117	FEMALE	0	1	4	9	66	21	5	6	5
	226	TOTAL	3	1	11	13	128	31	18	13	8
	109	MALE	1	2	3	1	22	29	36	11	4
497	117	FEMALE	2	0	3	0	22	35	34	16	5
	226	TOTAL	3	2	6	1	44	64	70	27	9
	109	MALE	0	0	4	2	11	29	40	20	3
498	116	FEMALE	0	0	3	4	12	29	40	19	9
	225	TOTAL	0	0	7	6	23	58	80	39	12
	109	MALE	1	3	34	30	15	15	9	1	1
499	117	FEMALE	1	11	26	35	12	18	6	3	5
	226	TOTAL	2	14	60	65	27	33	15	4	6
	109	MALE	0	9	13	18	17	16	24	10	2
500	116	FEMALE	2	10	15	18	19	25	16	9	2
	225	TOTAL	2	19	28	36	36	41	40	19	4
	109	MALE	0	0	2	5	12	25	36	25	4
501	117	FEMALE	0	1	1	6	9	26	43	29	2
	226	TOTAL	0	1	3	11	21	51	79	54	6
	110	MALE	0	0	3	1	5	17	44	36	4
502	117	FEMALE	1	0	2	1	9	12	47	36	9
	227	TOTAL	1	0	5	2	14	29	91	72	13
	110	MALE	1	9	28	24	23	10	9	5	1
503	117	FEMALE	3	9	24	22	28	16	10	5	0
	227	TOTAL	4	18	52	46	51	26	19	10	1
	110	MALE	0	2	4	7	13	30	35	15	4
504	117	FEMALE	2	0	7	15	10	22	37	19	5
	227	TOTAL	2	2	11	22	23	52	72	34	9
	110	MALE	1	3	6	6	27	22	27	16	2
505	117	FEMALE	2	3	8	8	23	29	30	11	3
	227	TOTAL	3	6	14	14	50	51	57	27	5
	110	MALE	1	3	7	9	36	23	15	9	7
506	117	FEMALE	2	5	13	15	20	23	21	12	6
	227	TOTAL	3	8	20	24	56	46	36	21	13
	109	MALE	2	7	21	22	19	14	15	7	2
507	117	FEMALE	4	9	19	24	26	16	10	9	0
	226	TOTAL	6	16	40	46	45	30	25	16	2
	110	MALE	0	0	6	12	38	27	15	8	4
508	117	FEMALE	0	0	5	6	50	26	15	9	6
	227	TOTAL	0	0	11	18	88	53	30	17	10
	110	MALE	5	24	37	17	10	6	9	2	0
509	117	FEMALE	3	20	38	29	9	6	5	4	3
	227	TOTAL	8	44	75	46	19	12	14	6	3

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	7	9	19	19	31	15	5	4	1
510	116	FEMALE	11	15	25	25	23	8	6	3	0
	226	TOTAL	18	24	44	44	54	23	11	7	1
	109	MALE	3	7	17	32	27	11	8	3	1
511	116	FEMALE	9	11	19	22	30	15	6	2	2
	225	TOTAL	12	18	36	54	57	26	14	5	3
	110	MALE	4	9	13	14	36	15	13	4	2
512	117	FEMALE	12	9	11	15	37	14	13	5	1
	227	TOTAL	16	18	24	29	73	29	26	9	3
	110	MALE	2	1	3	7	53	16	22	5	1
513	116	FEMALE	0	3	2	1	58	26	15	8	3
	226	TOTAL	2	4	5	8	111	42	37	13	4
	110	MALE	2	7	12	9	32	23	15	8	2
514	116	FEMALE	3	8	6	11	42	15	21	7	3
	226	TOTAL	5	15	18	20	74	38	36	15	5
	110	MALE	0	0	3	3	58	20	12	10	4
515	117	FEMALE	0	1	2	9	57	17	11	11	9
	227	TOTAL	0	1	5	12	115	37	23	21	13
	109	MALE	1	4	8	13	36	25	12	7	3
516	117	FEMALE	2	2	8	12	50	21	14	5	3
	226	TOTAL	3	6	16	25	86	46	26	12	6
	110	MALE	21	30	21	11	16	3	6	1	1
517	117	FEMALE	23	36	24	13	10	5	6	0	0
	227	TOTAL	44	66	45	24	26	8	12	1	1
	110	MALE	1	12	34	30	12	13	5	2	1
518	117	FEMALE	4	12	39	28	14	14	5	1	0
	227	TOTAL	5	24	73	58	26	27	10	3	1
	110	MALE	7	12	20	21	35	9	2	1	3
519	117	FEMALE	18	16	23	19	32	3	4	2	0
	227	TOTAL	25	28	43	40	67	12	6	3	3
	109	MALE	1	0	1	5	9	12	38	34	9
520	117	FEMALE	0	1	3	4	8	16	29	43	13
	226	TOTAL	1	1	4	9	17	28	67	77	22
	110	MALE	1	2	4	9	8	12	40	28	6
521	117	FEMALE	1	2	4	8	6	21	29	36	10
	227	TOTAL	2	4	8	17	14	33	69	64	16
	110	MALE	0	1	5	2	26	34	26	11	5
522	117	FEMALE	3	2	9	4	28	31	24	13	3
	227	TOTAL	3	3	14	6	54	65	50	24	8
	110	MALE	0	0	4	8	23	41	21	11	2
523	117	FEMALE	1	4	2	8	24	42	18	14	4
	227	TOTAL	1	4	6	16	47	83	39	25	6
	110	MALE	1	2	1	3	35	34	21	9	4
524	117	FEMALE	3	5	5	5	36	40	12	7	4
	227	TOTAL	4	7	6	8	71	74	33	16	8

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	5	18	48	17	12	7	0	1
525	117	FEMALE	2	8	18	44	17	9	13	3	3
	227	TOTAL	4	13	36	92	34	21	20	3	4
	109	MALE	9	34	26	16	15	4	2	2	1
526	115	FEMALE	27	32	22	12	12	3	5	2	0
	224	TOTAL	36	66	48	28	27	7	7	4	1
	110	MALE	1	1	3	13	47	24	14	6	1
527	117	FEMALE	1	3	4	3	56	18	24	4	4
	227	TOTAL	2	4	7	16	103	42	38	10	5
	110	MALE	0	1	5	11	50	26	12	3	2
528	117	FEMALE	0	2	7	8	52	28	12	4	4
	227	TOTAL	0	3	12	19	102	54	24	7	6
	110	MALE	0	3	3	8	25	34	28	4	5
529	117	FEMALE	2	2	2	4	34	33	22	11	7
	227	TOTAL	2	5	5	12	59	67	50	15	12
	110	MALE	3	6	30	33	19	11	5	2	1
530	117	FEMALE	4	8	34	36	14	11	6	3	1
	227	TOTAL	7	14	64	69	33	22	11	5	2
	110	MALE	14	25	25	18	10	14	2	1	1
531	117	FEMALE	10	28	30	25	11	5	6	2	0
	227	TOTAL	24	53	55	43	21	19	8	3	1
	110	MALE	3	2	2	6	23	34	24	14	2
532	117	FEMALE	1	1	5	4	36	29	22	17	2
	227	TOTAL	4	3	7	10	59	63	46	31	4
	110	MALE	0	2	3	6	41	39	12	3	4
533	117	FEMALE	1	5	3	8	53	25	14	5	3
	227	TOTAL	1	7	6	14	94	64	26	8	7
	110	MALE	1	1	2	12	11	15	35	27	6
534	117	FEMALE	0	1	9	6	7	23	33	25	13
	227	TOTAL	1	2	11	18	18	38	68	52	19
	110	MALE	3	5	10	22	54	9	4	3	0
535	117	FEMALE	6	6	9	32	46	9	7	0	2
	227	TOTAL	9	11	19	54	100	18	11	3	2
	110	MALE	0	5	6	14	14	28	33	10	0
536	116	FEMALE	1	3	8	12	12	29	35	12	4
	226	TOTAL	1	8	14	26	26	57	68	22	4
	110	MALE	2	2	4	3	23	24	26	21	5
537	117	FEMALE	7	5	3	5	18	26	20	25	8
	227	TOTAL	9	7	7	8	41	50	46	46	13
	110	MALE	3	4	8	20	37	20	14	4	0
538	117	FEMALE	3	1	14	11	37	34	11	4	2
	227	TOTAL	6	5	22	31	74	54	25	8	2
	110	MALE	1	3	4	4	28	37	17	12	4
539	117	FEMALE	3	4	1	5	27	38	20	16	3
	227	TOTAL	4	7	5	9	55	75	37	28	7

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	3	1	2	6	60	14	8	7	9
540	117	FEMALE	3	1	1	7	65	22	3	5	10
	227	TOTAL	6	2	3	13	125	36	11	12	19
	110	MALE	3	4	13	30	31	13	13	2	1
541	117	FEMALE	2	4	16	37	38	10	3	4	3
	227	TOTAL	5	8	29	67	69	23	16	6	4
	110	MALE	1	2	3	7	67	14	6	5	5
542	117	FEMALE	2	2	4	12	68	13	7	3	6
	227	TOTAL	3	4	7	19	135	27	13	8	11
	110	MALE	2	17	40	21	16	9	2	1	2
543	117	FEMALE	6	26	44	17	15	7	1	1	0
	227	TOTAL	8	43	84	38	31	16	3	2	2
	110	MALE	2	8	26	35	25	5	6	3	0
544	117	FEMALE	2	8	32	36	20	10	6	2	1
	227	TOTAL	4	16	58	71	45	15	12	5	1
	110	MALE	2	4	6	27	48	13	8	2	0
545	117	FEMALE	1	4	8	25	55	16	6	1	1
	227	TOTAL	3	8	14	52	103	29	14	3	1
	110	MALE	2	2	4	6	33	26	22	11	4
546	117	FEMALE	2	3	0	7	36	33	19	16	1
	227	TOTAL	4	5	4	13	69	59	41	27	5
	110	MALE	2	0	2	3	15	26	39	14	9
547	117	FEMALE	0	3	1	4	19	32	32	21	5
	227	TOTAL	2	3	3	7	34	58	71	35	14
	110	MALE	1	8	18	34	26	10	9	3	1
548	117	FEMALE	1	7	19	22	37	15	12	3	1
	227	TOTAL	2	15	37	56	63	25	21	6	2
	110	MALE	5	19	34	20	10	11	6	4	1
549	116	FEMALE	7	24	36	19	11	14	5	0	0
	226	TOTAL	12	43	70	39	21	25	11	4	1
	110	MALE	2	0	4	5	37	41	15	4	2
550	117	FEMALE	2	4	5	5	49	39	10	3	0
	227	TOTAL	4	4	9	10	86	80	25	7	2
	110	MALE	1	5	23	36	23	8	13	0	1
551	116	FEMALE	3	5	29	41	18	15	4	0	1
	226	TOTAL	4	10	52	77	41	23	17	0	2
	110	MALE	2	1	4	5	29	27	34	7	1
552	117	FEMALE	2	1	6	7	32	39	20	10	0
	227	TOTAL	4	2	10	12	61	66	54	17	1
	110	MALE	6	6	39	26	17	5	7	2	2
553	117	FEMALE	8	16	42	19	12	9	7	2	2
	227	TOTAL	14	22	81	45	29	14	14	4	4
	110	MALE	2	1	7	15	35	27	17	6	0
554	117	FEMALE	2	4	4	10	41	33	11	9	3
	227	TOTAL	4	5	11	25	76	60	28	15	3

Table A4.1 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	3	15	32	24	19	9	4	4	0
555	116	FEMALE	9	25	37	14	10	14	4	2	1
	226	TOTAL	12	40	69	38	29	23	8	6	1
	109	MALE	2	2	14	18	20	22	23	7	1
556	116	FEMALE	1	1	8	14	37	24	19	10	2
	225	TOTAL	3	3	22	32	57	46	42	17	3
	110	MALE	2	3	11	15	37	26	10	2	4
557	116	FEMALE	3	3	4	20	37	23	17	7	2
	226	TOTAL	5	6	15	35	74	49	27	9	6
	109	MALE	1	5	13	17	38	19	8	5	3
558	117	FEMALE	1	11	17	17	35	11	20	3	2
	226	TOTAL	2	16	30	34	73	30	28	8	5
	110	MALE	1	11	37	25	21	7	6	2	0
559	117	FEMALE	3	13	39	26	17	11	7	1	0
	227	TOTAL	4	24	76	51	38	18	13	3	0
	109	MALE	4	5	26	28	23	13	5	4	1
560	117	FEMALE	2	10	33	17	29	12	12	2	0
	226	TOTAL	6	15	59	45	52	25	17	6	1
	110	MALE	2	3	3	8	28	21	25	15	5
561	117	FEMALE	1	3	0	2	35	23	32	15	6
	227	TOTAL	3	6	3	10	63	44	57	30	11
	110	MALE	1	4	12	18	32	16	14	10	3
562	117	FEMALE	1	3	8	13	35	15	26	9	7
	227	TOTAL	2	7	20	31	67	31	40	19	10
	110	MALE	1	0	3	2	24	31	30	15	4
563	117	FEMALE	2	6	4	0	21	36	33	12	3
	227	TOTAL	3	6	7	2	45	67	63	27	7
	110	MALE	2	16	37	22	13	11	7	2	0
564	117	FEMALE	5	16	40	24	11	11	5	4	1
	227	TOTAL	7	32	77	46	24	22	12	6	1
	110	MALE	4	16	25	14	20	16	11	2	2
565	117	FEMALE	19	17	17	12	20	17	10	4	1
	227	TOTAL	23	33	42	26	40	33	21	6	3
	110	MALE	2	1	4	13	27	20	29	10	4
566	117	FEMALE	0	3	7	9	36	27	21	10	4
	227	TOTAL	2	4	11	22	63	47	50	20	8

Table A4.2

Frequency Distribution for Males, Females and Total Groups on the Hate-Love Dimension

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	1	1	4	20	37	41	3	2
001	117	FEMALE	2	5	5	8	30	36	25	6	0
	227	TOTAL	3	6	6	12	50	73	66	9	2
	110	MALE	1	0	0	1	17	31	37	19	4
002	116	FEMALE	2	0	1	1	23	30	34	19	6
	226	TOTAL	3	0	1	2	40	61	71	38	10
	110	MALE	0	0	3	5	20	29	34	16	3
003	117	FEMALE	2	1	2	3	20	28	34	21	6
	227	TOTAL	2	1	5	8	40	57	68	37	9
	107	MALE	1	3	3	8	30	40	17	4	1
004	117	FEMALE	3	3	4	10	26	36	28	6	1
	224	TOTAL	4	6	7	18	56	76	45	10	2
	109	MALE	0	8	8	33	37	12	6	3	2
005	117	FEMALE	4	8	15	29	36	15	5	4	1
	226	TOTAL	4	16	23	62	73	27	11	7	3
	109	MALE	1	5	6	11	17	31	29	6	3
006	117	FEMALE	2	9	13	20	20	21	25	7	0
	226	TOTAL	3	14	19	31	37	52	54	13	3
	110	MALE	1	0	3	5	49	34	15	2	1
007	117	FEMALE	1	5	3	6	40	30	24	8	0
	227	TOTAL	2	5	6	11	89	64	39	10	1
	110	MALE	0	0	0	3	9	32	37	22	7
008	117	FEMALE	1	1	2	1	14	21	36	31	10
	227	TOTAL	1	1	2	4	23	53	73	53	17
	110	MALE	0	0	1	13	31	27	24	10	4
009	117	FEMALE	0	0	3	6	29	25	25	19	10
	227	TOTAL	0	0	4	19	60	52	49	29	14
	110	MALE	0	5	16	37	37	9	4	2	0
010	117	FEMALE	6	12	23	32	29	11	3	0	0
	227	TOTAL	6	18	39	69	66	20	7	2	0
	110	MALE	0	3	7	12	47	21	13	4	3
011	117	FEMALE	1	6	6	14	48	24	13	5	0
	227	TOTAL	1	9	13	26	95	45	26	9	3
	110	MALE	1	2	2	5	15	29	41	13	2
012	117	FEMALE	0	0	4	6	23	31	31	16	6
	227	TOTAL	1	2	6	11	38	60	72	29	8
	108	MALE	3	10	28	26	25	7	6	3	0
013	116	FEMALE	2	15	25	24	21	12	7	10	0
	224	TOTAL	5	25	53	50	46	19	13	13	0
	109	MALE	4	13	22	20	47	2	0	1	0
014	116	FEMALE	11	16	19	24	40	3	3	0	0
	225	TOTAL	15	29	41	44	87	5	3	1	0

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	16	26	31	20	13	2	0	1
015	116	FEMALE	5	21	33	24	25	3	1	3	1
	225	TOTAL	5	37	59	55	45	16	3	3	2
	110	MALE	8	26	36	10	18	6	4	2	0
016	116	FEMALE	22	40	18	14	15	5	1	1	0
	226	TOTAL	30	66	54	24	33	11	5	3	0
	110	MALE	0	1	1	4	10	17	29	39	9
017	115	FEMALE	2	1	1	1	9	13	30	34	24
	225	TOTAL	2	2	2	5	19	30	59	73	33
	109	MALE	1	3	8	13	54	17	7	3	3
018	116	FEMALE	7	4	9	12	46	17	14	6	1
	225	TOTAL	8	7	17	25	100	34	21	9	4
	110	MALE	1	3	9	22	25	24	19	5	2
019	115	FEMALE	4	5	19	25	31	14	9	7	1
	225	TOTAL	5	8	28	47	56	38	28	12	3
	109	MALE	1	1	2	4	31	27	31	8	4
020	116	FEMALE	1	0	2	3	32	29	30	12	7
	225	TOTAL	2	1	4	7	63	56	61	20	11
	109	MALE	1	9	31	16	17	15	11	6	3
021	115	FEMALE	3	12	27	24	25	11	5	6	2
	224	TOTAL	4	21	58	40	42	26	16	12	5
	110	MALE	1	5	27	15	38	9	8	6	1
022	117	FEMALE	6	9	25	30	27	8	6	6	0
	227	TOTAL	7	14	52	45	65	17	14	12	1
	110	MALE	7	16	28	18	34	5	1	0	1
023	117	FEMALE	14	18	33	22	28	1	1	0	0
	227	TOTAL	21	34	61	40	62	6	2	0	1
	109	MALE	3	19	33	26	14	7	5	1	1
024	116	FEMALE	9	26	36	22	12	1	9	0	1
	225	TOTAL	12	45	69	48	26	8	14	1	2
	110	MALE	2	2	2	5	17	33	37	8	4
025	116	FEMALE	7	1	2	2	19	33	33	14	5
	226	TOTAL	9	3	4	7	36	66	70	22	9
	110	MALE	0	3	7	26	46	16	8	3	1
026	117	FEMALE	2	4	6	31	36	21	7	6	4
	227	TOTAL	2	7	13	57	82	37	15	9	5
	109	MALE	9	21	22	24	27	4	0	0	2
027	117	FEMALE	24	29	25	15	20	2	1	0	1
	226	TOTAL	33	50	47	39	47	6	1	0	3
	110	MALE	6	18	34	16	16	12	4	2	2
028	117	FEMALE	11	27	37	10	15	9	6	2	0
	227	TOTAL	17	45	71	26	31	21	10	4	2
	109	MALE	4	9	24	24	36	7	2	1	2
029	117	FEMALE	11	10	28	32	28	3	4	1	0
	226	TOTAL	15	19	52	56	64	10	6	2	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	3	5	14	36	23	16	8	2	3
030	117	FEMALE	1	4	16	39	27	16	6	6	2
	227	TOTAL	4	9	30	75	50	32	14	8	5
	110	MALE	2	14	23	28	37	2	1	1	2
031	117	FEMALE	8	14	32	31	23	6	2	1	0
	227	TOTAL	10	28	55	59	60	8	3	2	2
	110	MALE	1	3	14	42	37	8	2	2	1
032	117	FEMALE	4	9	23	32	36	7	4	2	0
	227	TOTAL	5	12	37	74	73	15	6	4	1
	110	MALE	0	4	13	26	47	12	5	2	1
033	117	FEMALE	5	11	20	22	39	9	6	4	1
	227	TOTAL	5	15	33	48	86	21	11	6	2
	110	MALE	3	6	17	34	39	6	1	2	2
034	117	FEMALE	3	12	21	30	42	2	6	1	0
	227	TOTAL	6	18	38	64	81	8	7	3	2
	109	MALE	6	22	32	17	20	5	4	2	1
035	116	FEMALE	16	38	30	10	14	1	6	1	0
	225	TOTAL	22	60	62	27	34	6	10	3	1
	110	MALE	3	1	6	8	33	34	20	3	2
036	117	FEMALE	2	0	3	16	40	24	17	13	2
	227	TOTAL	5	1	9	24	73	58	37	16	4
	110	MALE	0	2	2	14	45	13	21	9	4
037	117	FEMALE	5	0	5	13	52	17	9	13	3
	227	TOTAL	5	2	7	27	97	30	30	22	7
	110	MALE	2	6	12	42	31	11	3	2	1
038	117	FEMALE	12	9	17	29	35	5	6	4	0
	227	TOTAL	14	15	29	71	66	16	9	6	1
	110	MALE	7	18	33	18	14	13	5	2	0
039	117	FEMALE	9	24	32	22	9	10	5	3	3
	227	TOTAL	16	42	65	40	23	23	10	5	3
	110	MALE	1	1	8	8	39	28	21	3	1
040	117	FEMALE	2	3	17	21	30	22	13	6	3
	227	TOTAL	3	4	25	29	69	50	34	9	4
	110	MALE	2	7	20	35	30	7	6	2	1
041	116	FEMALE	8	15	18	34	23	6	10	1	1
	226	TOTAL	10	22	38	69	53	13	16	3	2
	110	MALE	2	9	28	36	22	7	4	2	0
042	115	FEMALE	2	19	22	34	25	8	3	1	1
	225	TOTAL	4	28	50	70	47	15	7	3	1
	110	MALE	5	15	26	32	25	6	1	0	0
043	116	FEMALE	7	17	36	26	22	3	5	0	0
	226	TOTAL	12	32	62	58	47	9	6	0	0
	109	MALE	5	19	28	20	28	4	4	0	1
044	113	FEMALE	10	23	33	20	24	2	1	0	0
	222	TOTAL	15	42	61	40	52	6	5	0	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	5	22	36	26	13	6	1	1
045	116	FEMALE	4	14	24	37	25	8	2	2	0
	226	TOTAL	4	19	46	73	51	21	8	3	1
	110	MALE	0	1	1	8	23	22	29	25	1
046	115	FEMALE	1	1	1	1	24	23	35	23	6
	225	TOTAL	1	2	2	9	47	45	64	48	7
	110	MALE	3	4	17	33	45	4	3	1	0
047	116	FEMALE	9	7	23	26	43	6	1	1	0
	226	TOTAL	12	11	40	59	88	10	4	2	0
	110	MALE	3	7	32	30	29	4	4	1	0
048	115	FEMALE	10	14	26	28	28	5	2	2	0
	225	TOTAL	13	21	58	58	57	9	6	3	0
	109	MALE	9	20	32	14	20	6	3	3	2
049	116	FEMALE	17	18	18	19	23	10	8	2	1
	225	TOTAL	26	38	50	33	43	16	11	5	3
	110	MALE	8	8	10	10	52	12	7	3	0
050	116	FEMALE	19	8	9	12	54	5	7	2	0
	226	TOTAL	27	16	19	22	106	17	14	5	0
	110	MALE	0	1	0	10	33	20	24	15	7
051	117	FEMALE	1	2	0	10	27	16	34	24	3
	227	TOTAL	1	3	0	20	60	36	58	39	10
	110	MALE	2	5	25	43	15	12	5	1	2
052	117	FEMALE	2	7	23	46	19	9	8	3	0
	227	TOTAL	4	12	48	89	34	21	13	4	2
	110	MALE	5	7	4	9	30	29	17	5	4
053	117	FEMALE	8	9	3	6	31	33	18	6	3
	227	TOTAL	13	16	7	15	61	62	35	11	7
	109	MALE	1	0	0	2	9	20	45	27	5
054	117	FEMALE	1	2	0	3	11	10	44	38	8
	226	TOTAL	2	2	0	5	20	30	89	65	13
	110	MALE	1	2	4	12	44	23	14	8	2
055	117	FEMALE	4	4	4	17	48	19	7	11	3
	227	TOTAL	5	6	8	29	92	42	21	19	5
	109	MALE	7	6	14	40	28	10	3	0	1
056	117	FEMALE	6	11	22	29	39	8	1	1	0
	226	TOTAL	13	17	36	69	67	18	4	1	1
	110	MALE	1	0	0	3	8	29	47	21	1
057	116	FEMALE	0	0	4	1	14	20	38	35	4
	226	TOTAL	1	0	4	4	22	49	85	56	5
	109	MALE	1	3	3	8	38	23	20	10	3
058	116	FEMALE	5	3	9	9	42	18	13	13	4
	225	TOTAL	6	6	12	17	80	41	33	23	7
	110	MALE	3	15	33	31	10	8	5	3	2
059	116	FEMALE	4	13	31	28	16	11	8	3	2
	226	TOTAL	7	28	64	59	26	19	13	6	4

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	1	4	17	63	13	4	3	3
060	116	FEMALE	0	3	4	16	71	10	9	1	2
	226	TOTAL	2	4	8	33	134	23	13	4	5
	110	MALE	1	23	36	23	18	1	5	1	2
061	117	FEMALE	7	27	39	18	13	6	5	2	0
	227	TOTAL	8	50	75	41	31	7	10	3	2
	109	MALE	1	7	20	28	36	11	5	0	1
062	114	FEMALE	6	8	24	25	38	4	7	0	2
	223	TOTAL	7	15	44	53	74	15	12	0	3
	110	MALE	1	3	3	5	58	17	12	9	2
063	115	FEMALE	4	5	7	10	48	21	11	5	4
	225	TOTAL	5	8	10	15	106	38	23	14	6
	109	MALE	0	3	19	31	23	18	11	3	1
064	117	FEMALE	0	6	17	42	22	16	9	3	2
	226	TOTAL	0	9	36	73	45	34	20	6	3
	110	MALE	0	0	0	3	5	10	10	43	39
065	117	FEMALE	4	0	2	2	2	5	21	39	42
	227	TOTAL	4	0	2	5	7	15	31	82	81
	110	MALE	5	6	8	8	38	22	16	5	2
066	117	FEMALE	10	4	14	13	33	16	13	13	1
	227	TOTAL	15	10	22	21	71	38	29	18	3
	110	MALE	0	3	26	34	13	15	13	4	2
067	117	FEMALE	1	6	30	33	13	14	11	7	2
	227	TOTAL	1	9	56	67	26	29	24	11	4
	110	MALE	1	4	2	16	49	20	10	6	2
068	117	FEMALE	2	4	3	24	50	16	11	7	0
	227	TOTAL	3	8	5	40	99	36	21	13	2
	110	MALE	5	8	8	2	23	21	12	23	8
069	116	FEMALE	11	7	14	7	19	16	16	20	6
	226	TOTAL	16	15	22	9	42	37	28	43	14
	109	MALE	2	3	6	11	41	34	11	1	0
070	117	FEMALE	4	1	4	13	44	34	16	1	0
	226	TOTAL	6	4	10	24	85	68	27	2	0
	110	MALE	0	4	33	36	16	11	5	3	2
071	117	FEMALE	2	7	38	29	22	10	5	4	0
	227	TOTAL	2	11	71	65	38	21	10	7	2
	109	MALE	1	5	36	35	20	6	3	3	0
072	117	FEMALE	3	11	35	30	26	3	4	4	1
	226	TOTAL	4	16	71	65	46	9	7	7	1
	110	MALE	1	0	6	5	13	13	30	37	5
073	115	FEMALE	1	1	2	4	11	13	27	42	14
	225	TOTAL	2	1	8	9	24	26	57	79	19
	110	MALE	7	15	11	12	29	15	14	5	2
074	117	FEMALE	4	3	5	11	16	15	26	26	11
	227	TOTAL	11	18	16	23	45	30	40	31	13

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	4	22	31	25	13	8	5	2
075	116	FEMALE	1	2	11	33	33	11	17	6	2
	226	TOTAL	1	6	33	64	58	24	25	11	4
	110	MALE	2	18	24	34	20	8	4	0	0
076	117	FEMALE	4	23	29	30	16	3	7	5	0
	227	TOTAL	6	41	53	64	36	11	11	5	0
	110	MALE	1	0	3	3	16	31	40	15	1
077	117	FEMALE	2	2	4	1	12	24	52	17	3
	227	TOTAL	3	2	7	4	28	55	92	32	4
	108	MALE	0	0	3	6	9	41	39	7	3
078	117	FEMALE	2	0	1	0	10	32	51	18	3
	225	TOTAL	2	0	4	6	19	73	90	25	6
	109	MALE	0	7	4	16	23	33	21	4	1
079	116	FEMALE	1	4	8	12	24	32	26	7	2
	225	TOTAL	1	11	12	28	47	65	47	11	3
	109	MALE	1	7	16	31	26	19	8	1	0
080	116	FEMALE	9	15	28	28	19	14	2	1	0
	225	TOTAL	10	22	44	59	45	33	10	2	0
	110	MALE	1	0	5	9	16	46	27	4	2
081	117	FEMALE	3	2	4	12	28	36	20	10	2
	227	TOTAL	4	2	9	21	44	82	47	14	4
	110	MALE	2	3	26	36	25	9	7	2	0
082	117	FEMALE	4	10	26	35	25	9	5	3	0
	227	TOTAL	6	13	52	71	50	18	12	5	0
	110	MALE	0	0	2	3	25	25	26	24	5
083	116	FEMALE	1	1	5	0	22	18	36	23	10
	226	TOTAL	1	1	7	3	47	43	62	47	15
	110	MALE	1	11	24	22	12	20	12	8	0
084	117	FEMALE	5	16	27	17	26	7	12	7	0
	227	TOTAL	6	27	51	39	38	27	24	15	0
	110	MALE	6	17	25	8	24	12	13	4	1
085	117	FEMALE	17	26	24	21	14	6	3	4	2
	227	TOTAL	23	43	49	29	38	18	16	8	3
	110	MALE	2	16	29	36	12	9	3	3	0
086	117	FEMALE	6	19	37	31	13	3	4	3	1
	227	TOTAL	8	35	66	67	25	12	7	6	1
	110	MALE	3	4	5	2	19	42	27	8	0
087	117	FEMALE	3	3	3	2	29	45	22	9	1
	227	TOTAL	6	7	8	4	48	87	49	17	1
	110	MALE	0	0	1	1	9	25	44	23	7
088	115	FEMALE	2	0	1	2	4	26	43	27	10
	225	TOTAL	2	0	2	3	13	51	87	50	17
	110	MALE	1	6	14	41	25	13	8	2	0
089	116	FEMALE	0	3	15	40	28	15	9	4	2
	226	TOTAL	1	9	29	81	53	28	17	6	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	3	10	30	33	15	12	4	2
090	117	FEMALE	0	4	7	29	46	15	8	5	3
	227	TOTAL	1	7	17	59	79	30	20	9	5
	110	MALE	1	9	6	22	27	34	7	3	1
091	117	FEMALE	5	6	17	22	20	26	17	2	2
	227	TOTAL	6	15	23	44	47	60	24	5	3
	109	MALE	3	5	5	6	18	32	35	5	0
092	116	FEMALE	4	2	5	5	22	30	32	16	0
	225	TOTAL	7	7	10	11	40	62	67	21	0
	110	MALE	1	9	30	25	13	14	12	5	1
093	115	FEMALE	3	11	33	35	12	3	7	10	1
	225	TOTAL	4	20	63	60	25	17	19	15	2
	110	MALE	3	8	33	25	19	12	6	3	1
094	117	FEMALE	3	14	39	36	6	10	1	8	0
	227	TOTAL	6	22	72	61	25	22	7	11	1
	110	MALE	2	2	3	6	26	24	28	14	5
095	117	FEMALE	1	1	3	3	38	25	27	11	8
	227	TOTAL	3	3	6	9	64	49	55	25	13
	110	MALE	1	3	7	12	12	27	33	12	3
096	116	FEMALE	3	1	6	10	16	32	27	16	5
	226	TOTAL	4	4	13	22	28	59	60	28	8
	110	MALE	2	16	32	16	15	17	6	5	1
097	117	FEMALE	6	23	24	32	11	10	3	8	0
	227	TOTAL	8	39	56	48	26	27	9	13	1
	110	MALE	2	1	1	3	29	18	18	29	9
098	117	FEMALE	1	2	3	1	42	14	21	25	8
	227	TOTAL	3	3	4	4	71	32	39	54	17
	110	MALE	3	0	3	3	11	27	42	19	2
099	117	FEMALE	1	2	4	7	17	25	34	20	7
	227	TOTAL	4	2	7	10	28	52	76	39	9
	110	MALE	0	0	13	26	36	18	9	6	2
100	117	FEMALE	0	0	15	38	35	11	11	5	2
	227	TOTAL	0	0	28	64	71	29	20	11	4
	110	MALE	1	0	5	4	23	27	28	14	8
101	116	FEMALE	0	2	5	6	26	16	27	19	15
	226	TOTAL	1	2	10	10	49	43	55	33	23
	110	MALE	1	4	18	19	25	14	12	11	6
102	117	FEMALE	1	5	17	27	23	13	17	9	5
	227	TOTAL	2	9	35	46	48	27	29	20	11
	110	MALE	0	4	2	9	56	27	7	4	1
103	117	FEMALE	1	0	6	11	57	20	8	12	2
	227	TOTAL	1	4	8	20	113	47	15	16	3
	108	MALE	5	23	23	32	13	6	5	1	0
104	117	FEMALE	13	38	29	17	12	2	2	3	1
	225	TOTAL	18	61	52	49	25	8	7	4	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	1	7	21	44	15	12	5	2	2
105	117	FEMALE	0	10	13	41	36	7	6	3	1
	226	TOTAL	1	17	34	85	51	19	11	5	3
	107	MALE	5	26	36	20	11	3	4	2	0
106	117	FEMALE	9	31	31	23	13	3	5	2	0
	224	TOTAL	14	57	67	43	24	6	9	4	0
	109	MALE	0	0	3	1	5	15	45	37	3
107	117	FEMALE	0	0	2	1	3	11	48	42	10
	226	TOTAL	0	0	5	2	8	26	93	79	13
	109	MALE	2	8	11	30	47	7	2	2	0
108	115	FEMALE	3	8	20	30	46	4	3	0	1
	224	TOTAL	5	16	31	60	93	11	5	2	1
	109	MALE	0	21	24	25	11	15	8	4	1
109	117	FEMALE	4	17	37	32	8	8	7	4	0
	226	TOTAL	4	38	61	57	19	23	15	8	1
	108	MALE	2	34	24	23	15	5	2	3	0
110	117	FEMALE	17	46	28	9	11	2	1	2	1
	225	TOTAL	19	80	52	32	26	7	3	5	1
	109	MALE	3	2	4	20	41	23	9	7	0
111	117	FEMALE	0	5	8	18	48	19	12	4	3
	226	TOTAL	3	7	12	38	89	42	21	11	3
	109	MALE	0	0	1	9	14	24	38	17	6
112	117	FEMALE	1	2	3	5	17	23	31	29	6
	226	TOTAL	1	2	4	14	31	47	69	46	12
	109	MALE	0	0	1	4	17	30	26	27	4
113	117	FEMALE	1	2	1	2	22	28	30	20	11
	226	TOTAL	1	2	2	6	39	58	56	47	15
	109	MALE	2	14	19	31	32	5	3	2	1
114	117	FEMALE	7	10	29	27	32	5	3	1	3
	226	TOTAL	9	24	48	58	64	10	6	3	4
	109	MALE	2	1	1	1	23	24	30	18	9
115	117	FEMALE	3	0	1	4	30	21	21	25	12
	226	TOTAL	5	1	2	5	53	45	51	43	21
	109	MALE	1	3	6	7	27	29	27	8	1
116	117	FEMALE	3	3	13	13	28	25	27	5	0
	226	TOTAL	4	6	19	20	55	54	54	13	1
	108	MALE	1	2	22	32	23	16	8	3	1
117	116	FEMALE	3	8	20	30	26	15	9	5	0
	224	TOTAL	4	10	42	62	49	31	17	8	1
	108	MALE	1	3	16	39	30	14	3	0	2
118	117	FEMALE	4	10	14	38	39	6	3	3	0
	225	TOTAL	5	13	30	77	69	20	6	3	2
	109	MALE	0	0	2	9	65	19	7	4	3
119	117	FEMALE	0	4	3	3	65	29	7	4	2
	226	TOTAL	0	4	5	12	130	48	14	8	5

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	0	9	23	40	28	8	0	1
120	117	FEMALE	1	2	11	40	40	11	9	3	0
	226	TOTAL	1	2	20	63	80	39	17	3	1
	110	MALE	6	25	37	20	13	3	4	2	0
121	117	FEMALE	17	26	42	13	11	3	1	4	0
	227	TOTAL	23	51	79	33	24	6	5	6	0
	110	MALE	0	1	5	8	24	20	34	17	1
122	116	FEMALE	1	1	2	6	15	26	36	28	1
	226	TOTAL	1	2	7	14	39	46	70	45	2
	110	MALE	3	15	29	32	21	5	3	1	1
123	117	FEMALE	10	20	31	31	19	0	1	4	1
	227	TOTAL	13	35	60	63	40	5	4	5	2
	110	MALE	2	12	28	33	13	11	4	6	1
124	114	FEMALE	1	15	28	35	16	6	8	5	0
	224	TOTAL	3	27	56	68	29	17	12	11	1
	110	MALE	2	17	23	26	29	5	5	2	1
125	117	FEMALE	5	20	21	27	31	5	4	2	2
	227	TOTAL	7	37	44	53	60	10	9	4	3
	110	MALE	0	1	3	6	16	38	39	6	1
126	117	FEMALE	3	0	6	1	17	35	36	15	4
	227	TOTAL	3	1	9	7	33	73	75	21	5
	108	MALE	0	6	24	22	32	12	6	5	1
127	117	FEMALE	4	8	27	26	23	16	10	2	1
	225	TOTAL	4	14	51	48	55	28	16	7	2
	110	MALE	0	1	4	4	72	14	9	4	2
128	117	FEMALE	0	6	7	10	63	13	11	4	3
	227	TOTAL	0	7	11	14	135	27	20	8	5
	110	MALE	0	7	21	40	18	19	3	2	0
129	115	FEMALE	0	7	26	39	22	12	5	3	1
	225	TOTAL	0	14	47	79	40	31	8	5	1
	110	MALE	5	1	4	10	62	14	8	3	3
130	117	FEMALE	11	2	5	10	58	17	6	6	2
	227	TOTAL	16	3	9	20	120	31	14	9	5
	110	MALE	2	2	6	14	40	25	15	4	2
131	117	FEMALE	3	1	1	14	40	37	12	5	4
	227	TOTAL	5	3	7	28	80	62	27	9	6
	110	MALE	2	3	3	6	12	39	32	11	2
132	117	FEMALE	1	2	3	2	10	37	45	11	6
	227	TOTAL	3	5	6	8	22	76	77	22	8
	110	MALE	2	4	6	9	53	19	8	7	2
133	117	FEMALE	4	4	5	13	55	16	7	10	3
	227	TOTAL	6	8	11	22	108	35	15	17	5
	110	MALE	0	1	9	23	40	22	11	2	2
134	117	FEMALE	0	1	4	19	41	23	21	7	1
	227	TOTAL	0	2	13	42	81	45	32	9	3

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	3	7	36	33	18	10	1	1
135	117	FEMALE	2	6	20	36	25	15	9	3	1
	227	TOTAL	3	9	27	72	58	33	19	4	2
	110	MALE	1	4	26	38	20	15	5	1	0
136	117	FEMALE	2	10	24	43	16	11	8	3	0
	227	TOTAL	3	14	50	81	36	26	13	4	0
	110	MALE	0	0	0	4	21	24	41	15	5
137	117	FEMALE	1	0	3	3	11	30	42	24	3
	227	TOTAL	1	0	3	7	32	54	83	39	8
	110	MALE	4	20	25	22	12	15	9	3	0
138	117	FEMALE	4	19	29	34	13	8	5	5	0
	227	TOTAL	8	39	54	56	25	23	14	8	0
	110	MALE	6	25	35	18	12	10	2	1	1
139	117	FEMALE	14	31	33	20	9	5	3	2	0
	227	TOTAL	20	56	68	38	21	15	5	3	1
	110	MALE	2	1	2	2	9	37	48	7	2
140	117	FEMALE	0	0	0	4	16	33	34	25	5
	227	TOTAL	2	1	2	6	25	70	82	32	7
	110	MALE	1	2	5	24	36	26	14	2	0
141	116	FEMALE	0	1	12	32	33	17	15	6	0
	226	TOTAL	1	3	17	56	69	43	29	8	0
	110	MALE	1	11	32	36	14	9	5	1	1
142	117	FEMALE	1	9	33	47	14	9	3	0	1
	227	TOTAL	2	20	65	83	28	18	8	1	2
	109	MALE	0	3	3	5	16	28	27	23	4
143	117	FEMALE	2	4	5	14	29	25	24	12	2
	226	TOTAL	2	7	8	19	45	53	51	35	6
	110	MALE	6	6	9	11	9	40	24	4	1
144	117	FEMALE	12	9	9	12	25	22	25	3	0
	227	TOTAL	18	15	18	23	34	62	49	7	1
	110	MALE	4	9	32	26	13	15	6	5	0
145	117	FEMALE	10	21	38	33	4	4	5	0	2
	227	TOTAL	14	30	70	59	17	19	11	5	2
	110	MALE	1	6	13	26	25	25	12	2	0
146	117	FEMALE	1	7	13	26	23	27	16	2	2
	227	TOTAL	2	13	26	52	48	52	28	4	2
	110	MALE	0	5	24	43	18	12	6	2	0
147	117	FEMALE	1	5	27	39	27	15	1	2	0
	227	TOTAL	1	10	51	82	45	27	7	4	0
	110	MALE	4	9	27	33	17	12	7	1	0
148	117	FEMALE	2	13	26	40	14	11	7	3	1
	227	TOTAL	6	22	53	73	31	23	14	4	1
	110	MALE	4	3	2	7	52	26	13	2	1
149	117	FEMALE	3	3	4	4	55	33	9	5	1
	227	TOTAL	7	6	6	11	107	59	22	7	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	0	1	14	25	28	22	17	3
150	117	FEMALE	2	1	7	18	23	32	20	11	3
	227	TOTAL	2	1	8	32	48	60	42	28	6
	110	MALE	18	25	32	11	18	3	1	0	2
151	117	FEMALE	32	30	26	9	19	0	0	1	0
	227	TOTAL	50	55	58	20	37	3	1	1	2
	110	MALE	1	0	7	7	39	29	19	7	1
152	117	FEMALE	1	2	5	11	32	34	22	8	2
	227	TOTAL	2	2	12	18	71	63	41	15	3
	110	MALE	0	0	3	2	29	28	30	12	6
153	117	FEMALE	2	1	2	6	25	34	29	13	5
	227	TOTAL	2	1	5	8	54	62	59	25	11
	110	MALE	7	0	4	8	46	17	11	10	7
154	116	FEMALE	8	1	6	9	54	17	12	6	3
	226	TOTAL	15	1	10	17	100	34	23	16	10
	110	MALE	1	0	2	12	64	18	7	4	2
155	116	FEMALE	2	3	6	5	67	17	11	5	0
	226	TOTAL	3	3	8	17	131	35	18	9	2
	110	MALE	2	5	17	34	38	9	3	1	1
156	116	FEMALE	5	9	24	37	33	6	2	0	0
	226	TOTAL	7	14	41	71	71	15	5	1	1
	110	MALE	5	15	37	30	13	7	2	0	1
157	116	FEMALE	1	17	46	23	17	6	6	0	0
	226	TOTAL	6	32	83	53	30	13	8	0	1
	110	MALE	3	6	21	24	29	19	6	1	1
158	116	FEMALE	3	3	16	47	22	8	12	4	1
	226	TOTAL	6	9	37	71	51	27	18	5	2
	109	MALE	1	5	17	40	30	8	5	2	1
159	116	FEMALE	1	6	21	38	35	5	5	4	1
	225	TOTAL	2	11	38	78	65	13	10	6	2
	109	MALE	1	1	5	10	15	10	26	26	15
160	116	FEMALE	2	1	3	2	11	15	33	31	18
	225	TOTAL	3	2	8	12	26	25	59	57	33
	109	MALE	4	6	8	27	52	9	2	1	0
161	116	FEMALE	7	5	7	33	47	10	5	1	1
	225	TOTAL	11	11	15	60	99	19	7	2	1
	108	MALE	2	13	24	38	13	9	7	1	1
162	115	FEMALE	2	14	35	38	12	6	4	3	1
	223	TOTAL	4	27	59	76	25	15	11	4	2
	110	MALE	0	1	4	8	36	25	24	11	1
163	116	FEMALE	2	1	7	5	37	32	23	9	0
	226	TOTAL	2	2	11	13	73	57	47	20	1
	110	MALE	0	1	1	2	9	33	41	20	3
164	115	FEMALE	1	1	0	1	10	35	41	21	5
	225	TOTAL	1	2	1	3	19	68	82	41	8

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	1	7	9	10	37	34	8	3
165	116	FEMALE	0	2	12	15	16	27	27	15	2
	225	TOTAL	0	3	19	24	26	64	61	23	5
	110	MALE	3	8	16	25	42	11	4	0	1
166	116	FEMALE	2	13	18	30	38	7	6	2	0
	226	TOTAL	5	21	34	55	80	18	10	2	1
	110	MALE	4	10	19	16	38	16	5	2	0
167	116	FEMALE	6	17	20	25	25	13	6	4	0
	226	TOTAL	10	27	39	41	63	29	11	6	0
	110	MALE	9	16	28	17	30	5	4	0	1
168	115	FEMALE	12	24	34	12	24	1	6	2	0
	225	TOTAL	21	40	62	29	54	6	10	2	1
	107	MALE	0	3	1	9	34	24	21	10	5
169	115	FEMALE	4	1	4	8	40	26	17	12	3
	222	TOTAL	4	4	5	17	74	50	38	22	8
	110	MALE	2	7	3	12	35	24	12	12	3
170	115	FEMALE	1	5	7	15	26	20	19	16	6
	225	TOTAL	3	12	10	27	61	44	31	28	9
	110	MALE	0	5	21	38	24	13	6	2	1
171	116	FEMALE	0	7	25	45	18	9	8	3	1
	226	TOTAL	0	12	46	83	42	22	14	5	2
	110	MALE	0	4	16	37	24	19	4	6	0
172	117	FEMALE	0	4	13	44	28	14	8	6	0
	227	TOTAL	0	8	29	81	52	33	12	12	0
	110	MALE	1	1	0	2	10	40	43	10	3
173	117	FEMALE	3	0	2	1	12	27	41	26	5
	227	TOTAL	4	1	2	3	22	67	84	36	8
	110	MALE	3	3	2	10	56	21	6	5	4
174	117	FEMALE	5	5	3	8	59	24	8	3	2
	227	TOTAL	8	8	5	18	115	45	14	8	6
	110	MALE	3	2	3	11	47	26	10	6	2
175	116	FEMALE	3	5	5	13	55	22	9	2	2
	226	TOTAL	6	7	8	24	102	48	19	8	4
	110	MALE	3	3	4	17	42	26	9	3	3
176	117	FEMALE	5	10	8	15	37	23	12	4	3
	227	TOTAL	8	13	12	32	79	49	21	7	6
	107	MALE	0	0	1	1	4	12	45	30	14
177	116	FEMALE	2	0	0	0	4	9	29	50	22
	223	TOTAL	2	0	1	1	8	21	74	80	36
	110	MALE	0	0	1	4	34	33	21	8	9
178	117	FEMALE	0	2	2	5	26	37	26	15	4
	227	TOTAL	0	2	3	9	60	70	47	23	13
	110	MALE	2	5	29	28	24	12	6	2	2
179	117	FEMALE	3	7	27	38	24	12	3	3	0
	227	TOTAL	5	12	56	66	48	24	9	5	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	4	20	33	24	15	7	3	3
180	116	FEMALE	2	4	17	48	19	12	9	5	0
	226	TOTAL	3	8	37	81	43	27	16	8	3
	110	MALE	0	2	5	13	25	34	20	9	2
181	117	FEMALE	0	0	10	17	24	32	25	8	1
	227	TOTAL	0	2	15	30	49	66	45	17	3
	110	MALE	3	26	24	22	20	8	4	0	3
182	117	FEMALE	13	24	36	13	24	3	1	1	2
	227	TOTAL	16	50	60	35	44	11	5	1	5
	110	MALE	1	12	25	35	21	8	5	1	2
183	116	FEMALE	2	16	22	39	17	5	7	3	5
	226	TOTAL	3	28	47	74	38	13	12	4	7
	110	MALE	10	13	18	21	42	2	1	2	1
184	115	FEMALE	12	19	17	23	37	5	0	2	0
	225	TOTAL	22	32	35	44	79	7	1	4	1
	110	MALE	0	0	1	7	44	27	18	9	4
185	117	FEMALE	1	2	1	5	39	35	17	13	4
	227	TOTAL	1	2	2	12	83	62	35	22	8
	110	MALE	3	3	25	35	30	8	5	1	0
186	117	FEMALE	3	6	23	38	35	10	2	0	0
	227	TOTAL	6	9	48	73	65	18	7	1	0
	110	MALE	2	2	5	7	50	21	15	3	5
187	117	FEMALE	3	2	5	5	48	30	17	6	1
	227	TOTAL	5	4	10	12	98	51	32	9	6
	110	MALE	0	2	5	7	39	31	18	7	1
188	117	FEMALE	1	3	4	3	42	33	20	9	2
	227	TOTAL	1	5	9	10	81	64	38	16	3
	110	MALE	4	10	25	32	28	9	2	0	0
189	117	FEMALE	4	17	31	29	26	6	4	0	0
	227	TOTAL	8	27	56	61	54	15	6	0	0
	110	MALE	1	3	5	8	40	24	19	4	6
190	117	FEMALE	0	6	2	13	39	33	21	2	1
	227	TOTAL	1	9	7	21	79	57	40	6	7
	110	MALE	2	21	29	24	16	11	3	1	3
191	117	FEMALE	5	21	27	35	12	9	7	1	0
	227	TOTAL	7	42	56	59	28	20	10	2	3
	110	MALE	1	1	5	5	49	22	14	6	7
192	117	FEMALE	0	3	2	12	47	25	16	7	5
	227	TOTAL	1	4	7	17	96	47	30	13	12
	110	MALE	1	1	7	5	54	21	10	5	6
193	117	FEMALE	3	4	4	9	52	26	10	6	3
	227	TOTAL	4	5	11	14	106	47	20	11	9
	109	MALE	6	12	20	30	30	6	1	2	2
194	116	FEMALE	11	12	24	27	32	6	4	0	0
	225	TOTAL	17	24	44	57	62	12	5	2	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	4	6	23	32	17	14	6	5	3
195	116	FEMALE	1	4	14	45	16	17	12	6	1
	226	TOTAL	5	10	37	77	33	31	18	11	4
	110	MALE	0	1	4	0	9	28	33	25	10
196	117	FEMALE	1	0	1	0	10	28	45	16	16
	227	TOTAL	1	1	5	0	19	56	78	41	26
	110	MALE	6	18	32	28	21	1	2	0	2
197	116	FEMALE	14	21	37	20	19	1	3	0	1
	226	TOTAL	20	39	69	48	40	2	5	0	3
	110	MALE	2	1	4	17	45	23	14	4	0
198	116	FEMALE	0	3	7	20	42	32	8	4	0
	226	TOTAL	2	4	11	37	87	55	22	8	0
	109	MALE	2	1	2	7	33	27	21	9	7
199	117	FEMALE	0	1	2	2	40	26	25	15	6
	226	TOTAL	2	2	4	9	73	53	46	24	13
	110	MALE	5	24	34	20	17	3	6	0	1
200	117	FEMALE	14	22	37	19	16	5	4	0	0
	227	TOTAL	19	46	71	39	33	8	10	0	1
	110	MALE	2	8	17	28	21	22	6	4	2
201	116	FEMALE	1	4	11	43	19	17	11	7	3
	226	TOTAL	3	12	28	71	40	39	17	11	5
	110	MALE	17	32	22	16	15	2	2	3	1
202	116	FEMALE	33	29	16	18	14	5	1	0	0
	226	TOTAL	50	61	38	34	29	7	3	3	1
	110	MALE	2	3	3	1	17	32	32	20	0
203	116	FEMALE	3	1	2	2	22	26	35	21	4
	226	TOTAL	5	4	5	3	39	58	67	41	4
	110	MALE	1	0	1	2	14	49	33	7	3
204	117	FEMALE	2	5	2	2	21	32	38	13	2
	227	TOTAL	3	5	3	4	35	81	71	20	5
	110	MALE	7	11	32	26	22	5	4	1	2
205	117	FEMALE	12	25	31	22	22	3	1	1	0
	227	TOTAL	19	36	63	48	44	8	5	2	2
	110	MALE	1	5	1	9	17	19	28	22	8
206	117	FEMALE	2	1	5	6	28	27	20	24	4
	227	TOTAL	3	6	6	15	45	46	48	46	12
	110	MALE	0	1	2	1	6	28	40	23	9
207	116	FEMALE	1	0	2	0	13	26	42	26	6
	226	TOTAL	1	1	4	1	19	54	82	49	15
	110	MALE	0	2	0	3	12	40	35	16	2
208	117	FEMALE	3	3	4	4	10	40	40	12	1
	227	TOTAL	3	5	4	7	22	80	75	28	3
	110	MALE	12	33	23	18	15	4	2	2	1
209	117	FEMALE	20	38	23	15	11	2	4	3	1
	227	TOTAL	32	71	46	33	26	6	6	5	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	2	7	17	26	46	9	1	0	1
210	116	FEMALE	5	12	16	30	43	5	5	0	0
	225	TOTAL	7	19	33	56	89	14	6	0	1
	109	MALE	5	8	14	30	42	6	2	1	1
211	116	FEMALE	3	15	21	32	36	6	3	0	0
	225	TOTAL	8	23	35	62	78	12	5	1	1
	109	MALE	2	20	32	26	19	5	5	0	0
212	116	FEMALE	4	16	46	26	14	6	3	1	0
	225	TOTAL	6	36	78	52	33	11	8	1	0
	109	MALE	5	5	11	14	57	12	3	2	0
213	116	FEMALE	3	10	23	24	35	13	4	3	1
	225	TOTAL	8	15	34	38	92	25	7	5	1
	109	MALE	3	4	6	19	39	22	10	4	2
214	116	FEMALE	3	5	6	19	42	28	10	3	0
	225	TOTAL	6	9	12	38	81	50	20	7	2
	109	MALE	7	20	18	22	26	9	4	1	2
215	116	FEMALE	10	23	35	15	20	5	3	3	2
	225	TOTAL	17	43	53	37	46	14	7	4	4
	109	MALE	4	24	30	24	10	7	4	3	3
216	116	FEMALE	8	31	35	16	13	7	4	1	1
	225	TOTAL	12	55	65	40	23	14	8	4	4
	109	MALE	1	4	28	36	18	13	5	2	2
217	116	FEMALE	3	6	30	42	16	10	6	1	2
	225	TOTAL	4	10	58	78	34	23	11	3	4
	109	MALE	6	18	28	16	26	5	6	3	1
218	116	FEMALE	23	31	18	16	15	6	4	3	0
	225	TOTAL	29	49	46	32	41	11	10	6	1
	109	MALE	2	2	3	2	21	44	25	6	4
219	116	FEMALE	4	3	3	6	34	37	23	5	1
	225	TOTAL	6	5	6	8	55	81	48	11	5
	109	MALE	0	1	1	3	1	10	15	38	40
220	116	FEMALE	3	0	0	1	1	3	17	42	49
	225	TOTAL	3	1	1	4	2	13	32	80	89
	108	MALE	1	1	2	0	8	38	38	17	3
221	116	FEMALE	1	0	5	3	20	36	37	13	1
	224	TOTAL	2	1	7	3	28	74	75	30	4
	109	MALE	2	3	7	11	24	36	18	5	3
222	116	FEMALE	1	3	12	17	21	41	15	6	0
	225	TOTAL	3	6	19	28	45	77	33	11	3
	109	MALE	3	3	3	8	12	21	26	30	3
223	115	FEMALE	13	7	12	7	17	10	28	17	4
	224	TOTAL	16	10	15	15	29	31	54	47	7
	109	MALE	0	7	17	42	23	14	5	0	1
224	116	FEMALE	4	8	20	48	18	8	4	5	1
	225	TOTAL	4	15	37	90	41	22	9	5	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	3	10	29	38	20	5	2	2
225	116	FEMALE	0	1	7	43	31	27	5	1	1
	225	TOTAL	0	4	17	72	69	47	10	3	3
	109	MALE	2	16	29	27	12	16	3	2	2
226	115	FEMALE	2	14	29	43	14	6	5	1	1
	224	TOTAL	4	30	58	70	26	22	8	3	3
	108	MALE	3	4	8	18	58	8	6	2	1
227	115	FEMALE	8	2	6	22	65	7	3	1	1
	223	TOTAL	11	6	14	40	123	15	9	3	2
	109	MALE	0	2	3	4	26	28	35	9	2
228	116	FEMALE	0	2	4	4	29	35	28	14	0
	225	TOTAL	0	4	7	8	55	63	63	23	2
	110	MALE	2	0	1	8	18	37	33	10	1
229	116	FEMALE	0	3	2	7	18	34	36	13	3
	226	TOTAL	2	3	3	15	36	71	69	23	4
	110	MALE	0	5	3	9	44	28	20	1	0
230	116	FEMALE	2	1	5	16	46	27	13	4	2
	226	TOTAL	2	6	8	25	90	55	33	5	2
	109	MALE	1	1	4	2	14	44	27	11	5
231	117	FEMALE	1	1	9	5	18	35	38	10	0
	226	TOTAL	2	2	13	7	32	79	65	21	5
	110	MALE	1	1	1	10	21	36	25	11	4
232	116	FEMALE	2	5	6	13	21	33	23	12	1
	226	TOTAL	3	6	7	23	42	69	48	23	5
	110	MALE	3	1	16	25	24	18	17	3	3
233	117	FEMALE	4	7	11	31	17	21	17	7	2
	227	TOTAL	7	8	27	56	41	39	34	10	5
	110	MALE	0	2	15	32	25	24	7	4	1
234	117	FEMALE	2	2	19	48	18	21	4	3	0
	227	TOTAL	2	4	34	80	43	45	11	7	1
	109	MALE	1	1	6	16	28	19	24	13	1
235	116	FEMALE	2	1	4	7	30	30	33	7	2
	225	TOTAL	3	2	10	23	58	49	57	20	3
	109	MALE	1	6	24	40	21	7	6	1	3
236	116	FEMALE	3	12	32	43	14	7	4	1	0
	225	TOTAL	4	18	56	83	35	14	10	2	3
	110	MALE	0	1	4	13	30	33	23	6	0
237	117	FEMALE	2	5	12	21	26	32	13	5	1
	227	TOTAL	2	6	16	34	56	65	36	11	1
	110	MALE	2	5	20	31	29	13	3	5	2
238	116	FEMALE	1	6	21	39	32	10	3	2	2
	226	TOTAL	3	11	41	70	61	23	6	7	4
	110	MALE	3	11	26	21	16	13	9	3	8
239	117	FEMALE	10	12	25	25	20	12	8	1	4
	227	TOTAL	13	23	51	46	36	25	17	4	12

Table A4.2 (continued)

			FREQUENCY DISTRIBUTION								
ITEM NO.	N	GROUPS	-4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	4	9	15	31	29	10	4	6
240	116	FEMALE	3	6	10	18	23	24	20	11	1
	226	TOTAL	5	10	19	33	54	53	30	15	7
	109	MALE	3	2	5	29	35	22	10	1	2
241	115	FEMALE	2	6	11	26	44	18	5	2	1
	224	TOTAL	5	8	16	55	79	40	15	3	3
	110	MALE	0	0	4	14	45	23	19	1	4
242	117	FEMALE	0	2	8	18	43	27	11	8	0
	227	TOTAL	0	2	12	32	88	50	30	9	4
	110	MALE	0	1	6	15	43	15	18	9	3
243	117	FEMALE	0	2	5	10	40	28	25	5	2
	227	TOTAL	0	3	11	25	83	43	43	14	5
	109	MALE	1	4	24	35	27	11	5	1	1
244	117	FEMALE	0	7	16	48	28	11	2	4	1
	226	TOTAL	1	11	40	83	55	22	7	5	2
	110	MALE	0	19	35	22	24	4	5	1	0
245	117	FEMALE	3	28	35	27	15	5	3	0	1
	227	TOTAL	3	47	70	49	39	9	8	1	1
	110	MALE	6	7	13	28	47	7	1	0	1
246	117	FEMALE	7	6	22	38	39	3	1	0	1
	227	TOTAL	13	13	35	66	86	10	2	0	2
	109	MALE	3	7	30	37	12	8	6	4	2
247	117	FEMALE	5	14	36	31	14	10	5	2	0
	226	TOTAL	8	21	66	68	26	18	11	6	2
	110	MALE	2	1	1	8	11	30	33	18	6
248	117	FEMALE	0	5	7	9	15	21	35	22	3
	227	TOTAL	2	6	8	17	26	51	68	40	9
	109	MALE	6	7	12	14	38	12	9	7	4
249	117	FEMALE	6	8	21	10	48	6	8	7	3
	226	TOTAL	12	15	33	24	86	18	17	14	7
	109	MALE	3	6	16	24	26	23	6	3	2
250	116	FEMALE	3	10	22	26	25	15	8	4	3
	225	TOTAL	6	16	38	50	51	38	14	7	5
	109	MALE	4	8	15	29	42	7	2	1	1
251	117	FEMALE	11	13	15	32	38	5	2	0	1
	226	TOTAL	15	21	30	61	80	12	4	1	2
	110	MALE	5	18	38	21	15	8	3	1	1
252	117	FEMALE	12	32	38	17	9	4	3	2	0
	227	TOTAL	17	50	76	38	24	12	6	3	1
	110	MALE	1	2	4	14	19	40	20	8	2
253	117	FEMALE	1	2	16	15	17	41	18	4	3
	227	TOTAL	2	4	20	29	36	81	38	12	5
	110	MALE	2	1	9	17	15	42	16	5	3
254	117	FEMALE	4	8	17	20	14	26	21	5	2
	227	TOTAL	6	9	26	37	29	68	37	10	5

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	3	11	27	52	10	4	1	1
255	117	FEMALE	4	3	11	26	49	20	3	1	0
	227	TOTAL	5	6	22	53	101	30	7	2	1
	110	MALE	2	7	6	24	35	25	7	0	4
256	116	FEMALE	3	13	14	22	36	20	4	3	1
	226	TOTAL	5	20	20	46	71	45	11	3	5
	110	MALE	1	0	1	0	15	32	43	13	5
257	115	FEMALE	1	0	0	2	11	28	41	26	6
	225	TOTAL	2	0	1	2	26	60	84	39	11
	109	MALE	0	1	2	1	15	14	32	23	21
258	117	FEMALE	0	1	0	1	19	12	23	32	29
	226	TOTAL	0	2	2	2	34	26	55	55	50
	110	MALE	0	3	21	34	26	12	10	1	3
259	116	FEMALE	0	6	15	44	24	16	8	2	1
	226	TOTAL	0	9	36	78	50	28	18	3	4
	110	MALE	2	6	17	43	26	10	4	0	2
260	116	FEMALE	2	9	18	33	41	5	5	2	1
	226	TOTAL	4	15	35	76	67	15	9	2	3
	110	MALE	1	2	3	4	24	41	28	7	0
261	117	FEMALE	1	0	3	0	21	44	36	11	1
	227	TOTAL	2	2	6	4	45	85	64	18	1
	110	MALE	1	5	8	16	31	25	18	3	3
262	117	FEMALE	0	1	5	17	28	35	20	11	0
	227	TOTAL	1	6	13	33	59	60	38	14	3
	110	MALE	2	4	13	22	51	9	7	2	0
263	117	FEMALE	5	5	21	32	39	12	2	1	0
	227	TOTAL	7	9	34	54	90	21	9	3	0
	110	MALE	0	0	1	5	12	24	33	26	9
264	117	FEMALE	1	2	2	5	10	17	27	35	18
	227	TOTAL	1	2	3	10	22	41	60	61	27
	110	MALE	6	15	23	26	17	9	9	3	2
265	117	FEMALE	6	28	36	21	11	7	4	3	1
	227	TOTAL	12	43	59	47	28	16	13	6	3
	110	MALE	0	1	3	8	37	29	21	9	2
266	115	FEMALE	1	3	4	11	35	26	25	10	0
	225	TOTAL	1	4	7	19	72	55	46	19	2
	110	MALE	1	2	17	36	36	9	3	4	2
267	117	FEMALE	1	5	17	54	20	12	6	2	0
	227	TOTAL	2	7	34	90	56	21	9	6	2
	110	MALE	0	0	2	5	24	34	37	6	2
268	116	FEMALE	0	2	2	3	19	44	33	13	0
	226	TOTAL	0	2	4	8	43	78	70	19	2
	110	MALE	5	7	22	26	17	12	17	3	1
269	117	FEMALE	6	19	30	26	11	14	9	2	0
	227	TOTAL	11	26	52	52	28	26	26	5	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	2	9	10	41	25	12	6	3
270	117	FEMALE	3	7	10	17	37	26	11	6	0
	227	TOTAL	5	9	19	27	78	51	23	12	3
	110	MALE	2	7	21	37	24	11	5	2	1
271	117	FEMALE	3	15	32	33	16	9	5	4	0
	227	TOTAL	5	22	53	70	40	20	10	6	1
	109	MALE	0	0	2	2	24	27	33	13	8
272	116	FEMALE	0	1	1	2	27	21	37	20	7
	225	TOTAL	0	1	3	4	51	48	70	33	15
	110	MALE	7	3	12	28	50	5	3	1	1
273	116	FEMALE	10	7	18	29	41	6	4	1	0
	226	TOTAL	17	10	30	57	91	11	7	2	1
	110	MALE	1	0	1	6	42	22	17	14	7
274	116	FEMALE	2	0	3	7	42	24	23	12	2
	226	TOTAL	3	1	4	13	84	46	40	26	9
	109	MALE	11	15	34	16	20	3	4	5	1
275	116	FEMALE	20	22	28	16	20	4	4	2	0
	225	TOTAL	31	37	62	32	40	7	8	7	1
	110	MALE	0	0	0	2	5	20	50	24	9
276	116	FEMALE	1	2	0	1	2	7	49	44	10
	226	TOTAL	1	2	0	3	7	27	99	68	19
	110	MALE	4	4	5	16	20	39	16	5	1
277	116	FEMALE	6	10	13	20	23	25	12	7	0
	226	TOTAL	10	14	18	36	43	64	28	12	1
	110	MALE	0	5	37	30	20	10	5	1	2
278	116	FEMALE	4	16	34	31	15	9	4	2	1
	226	TOTAL	4	21	71	61	35	19	9	3	3
	110	MALE	1	1	7	18	52	20	7	2	2
279	116	FEMALE	1	4	11	18	59	11	8	4	0
	226	TOTAL	2	5	18	36	111	31	15	6	2
	110	MALE	3	4	18	31	24	20	8	2	0
280	117	FEMALE	1	15	21	33	19	15	9	4	0
	227	TOTAL	4	19	39	64	43	35	17	6	0
	109	MALE	0	4	3	13	63	16	3	4	3
281	117	FEMALE	2	5	8	17	63	15	4	2	1
	226	TOTAL	2	9	11	30	126	31	7	6	4
	110	MALE	2	8	21	35	18	17	6	1	2
282	117	FEMALE	8	7	30	34	10	15	10	2	1
	227	TOTAL	10	15	51	69	28	32	16	3	3
	110	MALE	1	0	4	3	21	26	28	23	4
283	117	FEMALE	3	2	7	5	27	25	25	20	3
	227	TOTAL	4	2	11	8	48	51	53	43	7
	109	MALE	4	6	34	22	22	12	7	2	0
284	117	FEMALE	7	15	29	36	11	12	4	2	1
	226	TOTAL	11	21	63	58	33	24	11	4	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	0	1	13	42	31	13	8	2
285	116	FEMALE	0	6	3	14	39	33	15	6	0
	226	TOTAL	0	6	4	27	81	64	28	14	2
	110	MALE	2	2	10	17	27	23	19	8	2
286	116	FEMALE	3	4	18	16	22	24	17	11	1
	226	TOTAL	5	6	28	33	49	47	36	19	3
	109	MALE	0	0	4	13	35	32	20	4	1
287	117	FEMALE	1	2	3	13	25	47	20	6	0
	226	TOTAL	1	2	7	26	60	79	40	10	1
	110	MALE	10	11	24	17	39	4	3	0	2
288	117	FEMALE	10	19	23	22	36	5	1	1	0
	227	TOTAL	20	30	47	39	75	9	4	1	2
	110	MALE	7	23	28	11	12	12	12	4	1
289	117	FEMALE	5	22	23	20	14	9	16	7	1
	227	TOTAL	12	45	51	31	26	21	28	11	2
	109	MALE	1	10	21	28	25	17	6	1	0
290	117	FEMALE	0	7	32	33	24	8	5	6	2
	226	TOTAL	1	17	53	61	49	25	11	7	2
	110	MALE	7	12	25	31	28	3	1	2	1
291	117	FEMALE	13	18	30	28	23	3	2	0	0
	227	TOTAL	20	30	55	59	51	6	3	2	1
	110	MALE	2	4	14	44	28	9	7	1	1
292	117	FEMALE	1	5	22	50	25	9	5	0	0
	227	TOTAL	3	9	36	94	53	18	12	1	1
	110	MALE	6	12	27	26	24	11	3	0	1
293	117	FEMALE	13	22	33	24	17	4	3	1	0
	227	TOTAL	19	34	60	50	41	15	6	1	1
	109	MALE	2	2	4	9	37	20	20	11	4
294	116	FEMALE	5	2	4	4	44	22	18	8	9
	225	TOTAL	7	4	8	13	81	42	38	19	13
	110	MALE	1	2	2	5	22	41	27	8	2
295	117	FEMALE	1	1	0	2	25	38	35	12	3
	227	TOTAL	2	3	2	7	47	79	62	20	5
	110	MALE	2	2	3	5	14	38	29	13	4
296	114	FEMALE	0	1	4	4	12	32	41	17	3
	224	TOTAL	2	3	7	9	26	70	70	30	7
	110	MALE	3	7	20	35	28	12	3	2	0
297	117	FEMALE	4	10	22	38	28	10	5	0	0
	227	TOTAL	7	17	42	73	56	22	8	2	0
	110	MALE	1	3	16	24	35	22	6	2	1
298	117	FEMALE	2	12	22	26	28	13	12	2	0
	227	TOTAL	3	15	38	50	63	35	18	4	1
	110	MALE	1	0	6	12	35	29	23	3	1
299	117	FEMALE	0	0	5	18	22	31	26	13	2
	227	TOTAL	1	0	11	30	57	60	49	16	3

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	5	14	23	44	12	3	4	3
300	117	FEMALE	3	10	23	26	32	16	4	3	0
	227	TOTAL	5	15	37	49	76	28	7	7	3
	110	MALE	1	12	32	30	19	9	3	4	0
301	117	FEMALE	7	18	44	20	19	5	3	1	0
	227	TOTAL	8	30	76	50	38	14	6	5	0
	109	MALE	0	4	4	9	45	19	15	8	5
302	117	FEMALE	2	1	4	7	53	21	17	10	2
	226	TOTAL	2	5	8	16	98	40	32	18	7
	109	MALE	3	8	18	30	29	10	6	3	2
303	117	FEMALE	2	8	22	45	27	9	3	0	1
	226	TOTAL	5	16	40	75	56	19	9	3	3
	109	MALE	1	9	24	27	26	13	7	2	0
304	117	FEMALE	3	10	19	41	27	8	4	4	1
	226	TOTAL	4	19	43	68	53	21	11	6	1
	110	MALE	1	8	33	32	18	8	6	4	0
305	116	FEMALE	5	18	34	28	18	9	4	0	0
	226	TOTAL	6	26	67	60	36	17	10	4	0
	110	MALE	1	1	8	15	31	27	15	10	2
306	116	FEMALE	1	5	6	17	30	39	12	6	0
	226	TOTAL	2	6	14	32	61	66	27	16	2
	110	MALE	1	7	16	42	24	13	2	5	0
307	116	FEMALE	1	9	24	51	15	12	4	0	0
	226	TOTAL	2	16	40	93	39	25	6	5	0
	110	MALE	5	8	27	23	19	15	7	4	2
308	115	FEMALE	3	9	30	27	23	14	4	4	1
	225	TOTAL	8	17	57	50	42	29	11	8	3
	109	MALE	1	0	5	3	24	36	34	6	0
309	117	FEMALE	0	1	3	3	28	37	34	10	1
	226	TOTAL	1	1	8	6	52	73	68	16	1
	109	MALE	1	1	3	3	25	32	31	10	3
310	117	FEMALE	0	0	3	5	29	34	29	12	5
	226	TOTAL	1	1	6	8	54	66	60	22	8
	110	MALE	1	8	10	36	34	12	7	0	2
311	115	FEMALE	7	7	17	37	34	7	2	3	1
	225	TOTAL	8	15	27	73	68	19	9	3	3
	110	MALE	4	20	34	24	18	4	4	2	0
312	117	FEMALE	12	25	35	28	10	2	2	3	0
	227	TOTAL	16	45	69	52	28	6	6	5	0
	110	MALE	2	15	23	26	27	8	5	3	1
313	117	FEMALE	6	13	24	29	28	9	3	5	0
	227	TOTAL	8	28	47	55	55	17	8	8	1
	110	MALE	2	4	20	37	26	12	4	4	1
314	117	FEMALE	1	10	37	34	23	7	3	1	1
	227	TOTAL	3	14	57	71	49	19	7	5	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	7	35	28	10	17	5	5	1	2
315	117	FEMALE	20	31	33	11	16	4	2	0	0
	227	TOTAL	27	66	61	21	33	9	7	1	2
	109	MALE	2	6	12	29	29	22	6	2	1
316	117	FEMALE	2	10	24	36	23	11	6	5	0
	226	TOTAL	4	16	36	65	52	33	12	7	1
	109	MALE	1	0	5	17	23	30	24	7	2
317	117	FEMALE	2	1	9	26	23	27	24	5	0
	226	TOTAL	3	1	14	43	46	57	48	12	2
	108	MALE	0	0	2	6	11	29	37	18	5
318	116	FEMALE	0	1	2	4	15	25	40	20	9
	224	TOTAL	0	1	4	10	26	54	77	38	14
	108	MALE	4	5	32	27	20	14	3	2	1
319	117	FEMALE	0	10	37	45	11	7	7	0	0
	225	TOTAL	4	15	69	72	31	21	10	2	1
	109	MALE	2	0	5	6	50	30	8	7	1
320	117	FEMALE	0	3	14	13	50	24	10	3	0
	226	TOTAL	2	3	19	19	100	54	18	10	1
	109	MALE	1	2	15	32	25	22	9	1	2
321	115	FEMALE	0	5	14	45	24	14	11	2	0
	224	TOTAL	1	7	29	77	49	36	20	3	2
	108	MALE	1	0	21	32	25	16	11	1	1
322	116	FEMALE	0	4	32	35	31	11	3	0	0
	224	TOTAL	1	4	53	67	56	27	14	1	1
	109	MALE	2	4	13	22	41	16	9	1	1
323	117	FEMALE	1	9	18	35	31	16	5	2	0
	226	TOTAL	3	13	31	57	72	32	14	3	1
	109	MALE	11	15	22	23	25	7	3	1	2
324	116	FEMALE	13	18	22	16	30	7	8	1	1
	225	TOTAL	24	33	44	39	55	14	11	2	3
	109	MALE	1	3	26	33	26	12	6	1	1
325	117	FEMALE	4	11	33	36	21	9	2	1	0
	226	TOTAL	5	14	59	69	47	21	8	2	1
	109	MALE	2	10	21	24	31	12	7	0	2
326	117	FEMALE	6	10	22	34	29	11	4	1	0
	226	TOTAL	8	20	43	58	60	23	11	1	2
	108	MALE	1	6	30	32	16	16	3	3	1
327	117	FEMALE	3	14	28	32	17	15	6	1	1
	225	TOTAL	4	20	58	64	33	31	9	4	2
	109	MALE	1	6	18	33	38	5	6	2	0
328	117	FEMALE	2	7	23	44	28	7	4	2	0
	226	TOTAL	3	13	41	77	66	12	10	4	0
	109	MALE	3	9	10	20	47	9	6	4	1
329	117	FEMALE	2	8	20	28	46	6	6	1	0
	226	TOTAL	5	17	30	48	93	15	12	5	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	4	3	3	5	52	15	11	9	7
330	114	FEMALE	2	5	3	11	51	22	8	4	8
	223	TOTAL	6	8	6	16	103	37	19	13	15
	109	MALE	5	23	41	13	19	3	3	2	0
331	117	FEMALE	13	36	39	14	12	3	0	0	0
	226	TOTAL	18	59	80	27	31	6	3	2	0
	108	MALE	1	3	16	26	49	7	5	1	0
332	117	FEMALE	5	7	19	31	45	8	2	0	0
	225	TOTAL	6	10	35	57	94	15	7	1	0
	109	MALE	1	17	35	24	15	11	3	3	0
333	117	FEMALE	4	35	37	19	13	6	3	0	0
	226	TOTAL	5	52	72	43	28	17	6	3	0
	108	MALE	3	6	14	31	43	7	2	1	1
334	116	FEMALE	4	12	23	27	44	4	2	0	0
	224	TOTAL	7	18	37	58	87	11	4	1	1
	110	MALE	0	0	11	41	38	11	5	3	1
335	117	FEMALE	2	3	21	47	27	8	6	3	0
	227	TOTAL	2	3	32	88	65	19	11	6	1
	110	MALE	2	11	28	38	14	12	5	0	0
336	117	FEMALE	2	12	31	42	17	9	3	1	0
	227	TOTAL	4	23	59	80	31	21	8	1	0
	109	MALE	3	16	27	30	18	9	6	0	0
337	117	FEMALE	8	22	33	28	12	8	5	1	0
	226	TOTAL	11	38	60	58	30	17	11	1	0
	110	MALE	2	11	27	32	18	11	7	2	0
338	116	FEMALE	3	23	34	25	16	6	5	2	2
	226	TOTAL	5	34	61	57	34	17	12	4	2
	110	MALE	36	31	8	8	19	7	0	1	0
339	115	FEMALE	59	26	8	4	11	4	2	0	1
	225	TOTAL	95	57	16	12	30	11	2	1	1
	109	MALE	0	2	16	20	28	26	13	3	1
340	116	FEMALE	1	6	11	19	24	28	18	8	1
	225	TOTAL	1	8	27	39	52	54	31	11	2
	110	MALE	1	4	18	31	38	11	5	2	0
341	117	FEMALE	5	8	10	40	36	10	4	4	0
	227	TOTAL	6	12	28	71	74	21	9	6	0
	107	MALE	0	4	18	33	34	11	1	3	3
342	117	FEMALE	3	12	21	46	23	10	2	0	0
	224	TOTAL	3	16	39	79	57	21	3	3	3
	110	MALE	0	3	8	34	43	12	8	2	0
343	117	FEMALE	2	4	19	34	36	12	8	1	1
	227	TOTAL	2	7	27	68	79	24	16	3	1
	110	MALE	3	11	29	30	22	5	7	2	1
344	116	FEMALE	3	14	38	35	15	7	2	2	0
	226	TOTAL	6	25	67	65	37	12	9	4	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	4	5	19	29	42	4	2	3	1
345	117	FEMALE	6	9	20	38	30	5	7	2	0
	226	TOTAL	10	14	39	67	72	9	9	5	1
	110	MALE	2	3	12	26	50	6	6	3	2
346	117	FEMALE	6	6	15	29	48	10	2	1	0
	227	TOTAL	8	9	27	55	98	16	8	4	2
	110	MALE	1	2	4	12	24	25	25	13	4
347	117	FEMALE	2	3	6	8	33	30	19	12	4
	227	TOTAL	3	5	10	20	57	55	44	25	8
	108	MALE	1	2	12	40	26	13	14	0	0
348	116	FEMALE	0	6	17	53	16	14	8	1	1
	224	TOTAL	1	8	29	93	42	27	22	1	1
	109	MALE	2	4	17	27	41	11	5	2	0
349	117	FEMALE	4	8	26	34	33	6	5	1	0
	226	TOTAL	6	12	43	61	74	17	10	3	0
	110	MALE	4	6	17	35	38	4	5	1	0
350	117	FEMALE	7	12	26	32	28	5	6	1	0
	227	TOTAL	11	18	43	67	66	9	11	2	0
	110	MALE	2	14	26	32	24	8	2	1	1
351	117	FEMALE	7	12	28	35	22	8	4	1	0
	227	TOTAL	9	26	54	67	46	16	6	2	1
	110	MALE	3	6	22	42	20	8	6	3	0
352	116	FEMALE	5	11	25	50	13	6	5	0	1
	226	TOTAL	8	17	47	92	33	14	11	3	1
	110	MALE	1	1	7	9	25	30	26	6	5
353	116	FEMALE	1	2	5	14	24	27	25	16	2
	226	TOTAL	2	3	12	23	49	57	51	22	7
	110	MALE	2	10	24	27	31	11	3	2	0
354	116	FEMALE	5	16	29	28	24	8	5	1	0
	226	TOTAL	7	26	53	55	55	19	8	3	0
	110	MALE	12	24	22	17	12	15	7	1	0
355	116	FEMALE	21	27	28	13	13	5	7	2	0
	226	TOTAL	33	51	50	30	25	20	14	3	0
	110	MALE	1	4	17	36	33	14	4	1	0
356	115	FEMALE	1	4	24	42	29	10	3	2	0
	225	TOTAL	2	8	41	78	62	24	7	3	0
	110	MALE	1	7	26	36	22	12	6	0	0
357	115	FEMALE	4	9	35	34	13	10	9	1	0
	225	TOTAL	5	16	61	70	35	22	15	1	0
	110	MALE	5	10	29	36	19	5	3	3	0
358	116	FEMALE	7	17	33	31	22	6	0	0	0
	226	TOTAL	12	27	62	67	41	11	3	3	0
	110	MALE	1	9	27	32	26	8	6	1	0
359	117	FEMALE	1	13	19	43	28	9	3	0	1
	227	TOTAL	2	22	46	75	54	17	9	1	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	3	15	31	27	26	5	3	0	0
360	117	FEMALE	8	15	33	36	19	4	1	1	0
	227	TOTAL	11	30	64	63	45	9	4	1	0
	110	MALE	1	7	24	32	23	15	6	0	2
361	116	FEMALE	2	7	23	41	20	12	6	4	1
	226	TOTAL	3	14	47	73	43	27	12	4	3
	110	MALE	0	1	8	19	29	29	18	5	1
362	116	FEMALE	0	6	7	27	25	27	16	7	1
	226	TOTAL	0	7	15	46	54	56	34	12	2
	110	MALE	6	9	18	19	17	21	16	4	0
363	117	FEMALE	15	20	25	21	12	11	8	5	0
	227	TOTAL	21	29	43	40	29	32	24	9	0
	110	MALE	4	21	34	21	21	4	5	0	0
364	117	FEMALE	12	28	39	16	16	5	1	0	0
	227	TOTAL	16	49	73	37	37	9	6	0	0
	108	MALE	3	4	19	41	33	5	1	1	1
365	117	FEMALE	5	16	22	32	36	5	1	0	0
	225	TOTAL	8	20	41	73	69	10	2	1	1
	110	MALE	1	8	30	38	15	11	4	2	1
366	117	FEMALE	3	15	33	32	21	10	2	1	0
	227	TOTAL	4	23	63	70	36	21	6	3	1
	110	MALE	2	5	3	11	54	17	13	4	1
367	116	FEMALE	2	5	11	8	51	18	16	5	0
	226	TOTAL	4	10	14	19	105	35	29	9	1
	110	MALE	1	6	13	40	23	16	8	1	2
368	117	FEMALE	0	11	20	43	18	15	8	2	0
	227	TOTAL	1	17	33	83	41	31	16	3	2
	110	MALE	1	0	5	5	45	33	9	8	4
369	117	FEMALE	0	0	2	9	44	27	17	13	5
	227	TOTAL	1	0	7	14	89	60	26	21	9
	110	MALE	8	15	11	29	24	11	6	5	1
370	116	FEMALE	1	16	12	20	27	12	15	10	3
	226	TOTAL	9	31	23	49	51	23	21	15	4
	110	MALE	1	1	7	14	38	35	10	3	1
371	116	FEMALE	1	3	4	10	35	34	19	9	1
	226	TOTAL	2	4	11	24	73	69	29	12	2
	110	MALE	0	1	3	7	36	44	14	3	2
372	117	FEMALE	0	0	2	9	38	32	23	10	3
	227	TOTAL	0	1	5	16	74	76	37	13	5
	109	MALE	1	3	3	8	30	20	22	18	4
373	117	FEMALE	2	2	6	7	38	18	16	19	9
	226	TOTAL	3	5	9	15	68	38	38	37	13
	109	MALE	0	1	8	37	42	14	3	3	1
374	117	FEMALE	0	4	11	40	39	15	7	1	0
	226	TOTAL	0	5	19	77	81	29	10	4	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	3	9	31	27	17	15	5	2	0
375	117	FEMALE	3	9	34	39	16	10	5	0	1
	226	TOTAL	6	18	65	66	33	25	10	2	1
	110	MALE	0	3	2	5	25	42	26	6	1
376	117	FEMALE	3	0	2	9	36	29	28	10	0
	227	TOTAL	3	3	4	14	61	71	54	16	1
	110	MALE	2	1	12	33	33	21	6	2	0
377	117	FEMALE	3	3	13	49	25	13	8	1	2
	227	TOTAL	5	4	25	82	58	34	14	3	2
	109	MALE	1	10	20	29	25	13	8	0	3
378	117	FEMALE	4	13	26	30	20	11	7	5	1
	226	TOTAL	5	23	46	59	45	24	15	5	4
	109	MALE	1	1	5	17	31	26	17	9	2
379	115	FEMALE	0	0	7	19	26	43	14	4	2
	224	TOTAL	1	1	12	36	57	69	31	13	4
	109	MALE	0	3	8	18	25	32	17	4	2
380	117	FEMALE	0	1	8	22	23	40	15	6	2
	226	TOTAL	0	4	16	40	48	72	32	10	4
	110	MALE	2	10	24	29	24	13	6	2	0
381	117	FEMALE	0	13	23	37	30	6	5	1	2
	227	TOTAL	2	23	47	66	54	19	11	3	2
	110	MALE	1	4	17	28	22	23	9	5	1
382	117	FEMALE	1	5	18	34	22	18	10	8	1
	227	TOTAL	2	9	35	62	44	41	19	13	2
	110	MALE	1	10	31	32	14	12	10	0	0
383	117	FEMALE	3	14	37	31	15	9	7	1	0
	227	TOTAL	4	24	68	63	29	21	17	1	0
	110	MALE	1	8	19	36	27	11	7	0	1
384	117	FEMALE	2	12	23	31	27	12	7	2	1
	227	TOTAL	3	20	42	67	54	23	14	2	2
	110	MALE	1	8	16	28	43	7	4	3	0
385	117	FEMALE	5	15	14	31	32	14	3	2	1
	227	TOTAL	6	23	30	59	75	21	7	5	1
	110	MALE	2	0	7	21	32	20	21	6	1
386	117	FEMALE	1	8	9	26	32	20	12	6	3
	227	TOTAL	3	8	16	47	64	40	33	12	4
	109	MALE	0	4	21	31	38	4	7	4	0
387	117	FEMALE	4	12	19	34	32	8	4	3	1
	226	TOTAL	4	16	40	65	70	12	11	7	1
	109	MALE	4	11	20	41	24	6	3	0	0
388	117	FEMALE	2	20	21	35	24	8	2	4	1
	226	TOTAL	6	31	41	76	48	14	5	4	1
	108	MALE	1	7	32	32	24	9	1	2	0
389	117	FEMALE	2	12	29	38	20	8	6	2	0
	225	TOTAL	3	19	61	70	44	17	7	4	0

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	6	23	26	24	20	7	2	1
390	116	FEMALE	0	3	26	31	27	9	13	5	2
	225	TOTAL	0	9	49	57	51	29	20	7	3
	109	MALE	1	0	2	4	6	21	34	28	13
391	117	FEMALE	3	1	3	4	12	19	25	37	13
	226	TOTAL	4	1	5	8	18	40	59	65	26
	109	MALE	9	13	23	24	27	7	3	3	0
392	117	FEMALE	10	19	27	20	25	6	5	5	0
	226	TOTAL	19	32	50	44	52	13	8	8	0
	108	MALE	16	28	27	16	11	7	1	1	1
393	116	FEMALE	31	43	18	7	9	1	5	2	0
	224	TOTAL	47	71	45	23	20	8	6	3	1
	109	MALE	0	0	3	5	30	45	20	5	1
394	116	FEMALE	0	1	3	11	31	39	26	3	2
	225	TOTAL	0	1	6	16	61	84	46	8	3
	109	MALE	1	1	24	31	34	10	4	3	1
395	117	FEMALE	4	6	22	41	24	12	6	2	0
	226	TOTAL	5	7	46	72	58	22	10	5	1
	109	MALE	2	6	19	46	21	8	5	1	1
396	117	FEMALE	5	13	39	37	13	4	3	3	0
	226	TOTAL	7	19	58	83	34	12	8	4	1
	109	MALE	3	10	26	28	23	10	4	4	1
397	117	FEMALE	5	20	34	27	14	8	6	2	1
	226	TOTAL	8	30	60	55	37	18	10	6	2
	109	MALE	0	2	10	21	29	23	17	6	1
398	117	FEMALE	0	7	11	28	28	18	19	4	2
	226	TOTAL	0	9	21	49	57	41	36	10	3
	108	MALE	2	3	4	10	20	35	26	6	2
399	116	FEMALE	1	4	5	14	22	35	27	7	1
	224	TOTAL	3	7	9	24	42	70	53	13	3
	107	MALE	0	0	5	5	19	21	27	24	6
400	116	FEMALE	0	0	4	5	17	26	37	19	8
	223	TOTAL	0	0	9	10	36	47	64	43	14
	109	MALE	0	4	4	10	42	27	12	7	3
401	115	FEMALE	2	3	7	6	44	27	12	11	3
	224	TOTAL	2	7	11	16	86	54	24	18	6
	109	MALE	0	0	8	8	50	26	11	4	2
402	117	FEMALE	1	2	2	11	51	27	18	4	1
	226	TOTAL	1	2	10	19	101	53	29	8	3
	109	MALE	0	0	2	4	10	20	36	31	6
403	117	FEMALE	1	1	2	5	13	10	32	45	8
	226	TOTAL	1	1	4	9	23	30	68	76	14
	110	MALE	0	2	18	37	22	13	12	4	2
404	117	FEMALE	2	2	21	46	20	14	10	2	0
	227	TOTAL	2	4	39	83	42	27	22	6	2

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	2	2	3	63	19	7	7	6
405	117	FEMALE	1	2	3	9	59	22	12	5	4
	226	TOTAL	1	4	5	12	122	41	19	12	10
	110	MALE	1	5	15	33	24	14	12	3	3
406	116	FEMALE	2	5	15	32	26	18	14	3	1
	226	TOTAL	3	10	30	65	50	32	26	6	4
	108	MALE	0	0	1	6	29	33	27	7	5
407	117	FEMALE	3	1	2	3	25	45	28	9	1
	225	TOTAL	3	1	3	9	54	78	55	16	6
	110	MALE	2	3	20	24	22	20	11	4	4
408	117	FEMALE	1	3	23	34	18	15	17	4	2
	227	TOTAL	3	6	43	58	40	35	28	8	6
	110	MALE	0	2	15	30	30	19	8	3	3
409	116	FEMALE	1	2	15	38	28	13	13	4	2
	226	TOTAL	1	4	30	68	58	32	21	7	5
	109	MALE	1	1	6	18	18	27	21	14	3
410	117	FEMALE	4	6	17	18	17	27	15	9	4
	226	TOTAL	5	7	23	36	35	54	36	23	7
	110	MALE	2	13	25	40	12	12	4	0	2
411	117	FEMALE	4	15	39	30	16	11	2	0	0
	227	TOTAL	6	28	64	70	28	23	6	0	2
	109	MALE	1	2	4	12	50	22	9	3	6
412	117	FEMALE	3	1	7	5	42	29	24	5	1
	226	TOTAL	4	3	11	17	92	51	33	8	7
	110	MALE	6	24	28	12	27	6	3	1	3
413	117	FEMALE	28	31	20	8	16	6	4	4	0
	227	TOTAL	34	55	48	20	43	12	7	5	3
	109	MALE	2	8	23	35	24	8	8	1	0
414	116	FEMALE	5	13	39	26	18	5	7	2	1
	225	TOTAL	7	21	62	61	42	13	15	3	1
	110	MALE	0	0	1	10	21	32	33	9	4
415	117	FEMALE	0	1	3	5	16	25	37	25	5
	227	TOTAL	0	1	4	15	37	57	70	34	9
	110	MALE	1	7	24	34	22	6	10	3	3
416	116	FEMALE	2	6	18	42	19	15	5	7	2
	226	TOTAL	3	13	42	76	41	21	15	10	5
	109	MALE	3	9	33	23	14	14	8	3	2
417	117	FEMALE	1	11	29	27	16	22	7	3	1
	226	TOTAL	4	20	62	50	30	36	15	6	3
	110	MALE	8	26	26	24	16	3	4	3	0
418	116	FEMALE	9	30	35	14	14	10	4	0	0
	226	TOTAL	17	56	61	38	30	13	8	3	0
	110	MALE	1	6	7	27	45	12	8	3	1
419	117	FEMALE	9	13	14	26	42	7	4	2	0
	227	TOTAL	10	19	21	53	87	19	12	5	1

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	3	5	5	8	50	23	10	4	2
420	117	FEMALE	5	6	4	16	53	15	16	2	0
	227	TOTAL	8	11	9	24	103	38	26	6	2
	110	MALE	1	3	12	25	50	10	6	1	2
421	117	FEMALE	2	2	17	30	47	9	7	0	3
	227	TOTAL	3	5	29	55	97	19	13	1	5
	110	MALE	2	6	28	38	25	7	4	0	0
422	117	FEMALE	8	7	31	38	22	9	2	0	0
	227	TOTAL	10	13	59	76	47	16	6	0	0
	110	MALE	1	1	1	3	17	31	36	15	5
423	117	FEMALE	2	2	6	4	22	16	44	16	5
	227	TOTAL	3	3	7	7	39	47	80	31	10
	109	MALE	0	4	9	17	42	26	5	4	2
424	117	FEMALE	1	7	15	24	44	16	5	2	3
	226	TOTAL	1	11	24	41	86	42	10	6	5
	110	MALE	0	0	3	7	48	30	16	4	2
425	116	FEMALE	1	1	3	5	43	34	22	4	3
	226	TOTAL	1	1	6	12	91	64	38	8	5
	110	MALE	2	2	13	37	22	21	8	5	0
426	117	FEMALE	1	5	21	40	23	14	9	2	2
	227	TOTAL	3	7	34	77	45	35	17	7	2
	110	MALE	1	5	14	40	36	9	4	0	1
427	117	FEMALE	1	8	16	40	30	15	3	3	1
	227	TOTAL	2	13	30	80	66	24	7	3	2
	110	MALE	1	1	1	5	24	45	26	5	2
428	117	FEMALE	2	0	1	4	27	32	39	8	4
	227	TOTAL	3	1	2	9	51	77	65	13	6
	109	MALE	0	1	1	4	15	44	33	7	4
429	117	FEMALE	1	1	1	2	20	38	41	10	3
	226	TOTAL	1	2	2	6	35	82	74	17	7
	110	MALE	0	0	0	2	14	15	44	22	13
430	116	FEMALE	0	1	0	1	10	21	45	27	11
	226	TOTAL	0	1	0	3	24	36	89	49	24
	110	MALE	1	6	26	30	21	14	9	3	0
431	117	FEMALE	1	8	23	40	24	11	7	3	0
	227	TOTAL	2	14	49	70	45	25	16	6	0
	110	MALE	1	0	3	4	45	20	18	17	2
432	115	FEMALE	0	4	7	3	39	21	19	16	6
	225	TOTAL	1	4	10	7	84	41	37	33	8
	110	MALE	3	3	10	14	50	23	6	0	1
433	117	FEMALE	5	3	11	19	47	15	10	6	1
	227	TOTAL	8	6	21	33	97	38	16	6	2
	110	MALE	1	2	0	7	23	39	25	10	3
434	117	FEMALE	8	5	5	7	28	26	30	8	0
	227	TOTAL	9	7	5	14	51	65	55	18	3

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	1	0	1	8	28	37	28	6	1
435	117	FEMALE	1	2	3	5	48	33	21	4	0
	227	TOTAL	2	2	4	13	76	70	49	10	1
	110	MALE	0	4	14	31	26	18	11	4	2
436	117	FEMALE	1	3	17	36	31	15	10	3	1
	227	TOTAL	1	7	31	67	57	33	21	7	3
	110	MALE	1	1	14	27	28	26	9	2	2
437	116	FEMALE	2	12	15	26	26	25	8	0	2
	226	TOTAL	3	13	29	53	54	51	17	2	4
	110	MALE	9	13	19	22	18	12	11	6	0
438	115	FEMALE	4	21	33	29	7	13	3	4	1
	225	TOTAL	13	34	52	51	25	25	14	10	1
	110	MALE	0	1	17	49	22	13	8	0	0
439	115	FEMALE	1	7	15	43	29	15	2	3	0
	225	TOTAL	1	8	32	92	51	28	10	3	0
	109	MALE	0	3	0	6	17	42	31	6	4
440	115	FEMALE	0	1	1	3	23	48	28	8	4
	224	TOTAL	0	4	1	9	40	90	59	14	8
	110	MALE	0	0	1	5	15	39	37	10	3
441	115	FEMALE	1	1	4	1	45	24	29	9	1
	225	TOTAL	1	1	5	6	60	63	66	19	4
	110	MALE	0	6	18	34	28	17	6	1	0
442	115	FEMALE	1	7	17	44	28	6	7	3	2
	225	TOTAL	1	13	35	78	56	23	13	4	2
	110	MALE	1	5	15	41	26	15	5	2	0
443	116	FEMALE	1	3	25	41	23	14	7	2	0
	226	TOTAL	2	8	40	82	49	29	12	4	0
	110	MALE	1	5	7	29	46	16	3	3	0
444	116	FEMALE	0	4	18	31	28	23	9	2	1
	226	TOTAL	1	9	25	60	74	39	12	5	1
	110	MALE	0	0	1	9	21	28	35	11	5
445	115	FEMALE	0	0	2	0	22	42	32	12	5
	225	TOTAL	0	0	3	9	43	70	67	23	10
	110	MALE	1	0	3	5	22	38	35	5	1
446	116	FEMALE	4	6	4	10	24	37	24	5	2
	226	TOTAL	5	6	7	15	46	75	59	10	3
	110	MALE	1	1	8	28	22	25	20	4	1
447	116	FEMALE	3	3	18	29	20	23	14	4	2
	226	TOTAL	4	4	26	57	42	48	34	8	3
	109	MALE	1	9	29	34	19	13	3	0	1
448	116	FEMALE	4	17	30	33	21	6	2	2	1
	225	TOTAL	5	26	59	67	40	19	5	2	2
	109	MALE	0	0	1	2	6	35	44	15	6
449	115	FEMALE	0	0	2	1	12	27	41	25	7
	224	TOTAL	0	0	3	3	18	62	85	40	13

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	1	0	5	6	30	44	18	6
450	114	FEMALE	0	2	1	2	6	32	40	25	6
	224	TOTAL	0	3	1	7	12	62	84	43	12
	110	MALE	0	0	2	0	17	37	36	11	7
451	116	FEMALE	0	2	4	3	17	30	39	15	6
	226	TOTAL	0	2	6	3	34	67	75	26	13
	110	MALE	4	2	12	19	15	35	17	3	3
452	116	FEMALE	7	10	22	23	8	22	17	5	2
	226	TOTAL	11	12	34	42	23	57	34	8	5
	109	MALE	1	3	8	31	40	19	4	1	2
453	116	FEMALE	5	4	12	30	37	16	10	2	0
	225	TOTAL	6	7	20	61	77	35	14	3	2
	110	MALE	0	4	7	10	17	31	28	10	3
454	117	FEMALE	5	6	13	8	15	24	36	9	1
	227	TOTAL	5	10	20	18	32	55	64	19	4
	110	MALE	0	1	8	39	38	12	6	4	2
455	117	FEMALE	0	3	10	30	31	30	9	4	0
	227	TOTAL	0	4	18	69	69	42	15	8	2
	110	MALE	1	4	9	25	40	20	5	4	2
456	116	FEMALE	2	10	16	27	36	14	9	1	1
	226	TOTAL	3	14	25	52	76	34	14	5	3
	110	MALE	4	18	12	24	33	6	10	2	1
457	117	FEMALE	7	14	13	30	35	9	6	3	0
	227	TOTAL	11	32	25	54	68	15	16	5	1
	110	MALE	0	4	17	30	31	15	6	5	2
458	117	FEMALE	2	11	11	29	33	11	15	2	3
	227	TOTAL	2	15	28	59	64	26	21	7	5
	110	MALE	4	9	23	35	22	7	9	1	0
459	117	FEMALE	5	15	23	40	17	12	3	1	1
	227	TOTAL	9	24	46	75	39	19	12	2	1
	108	MALE	1	3	2	13	44	28	13	1	3
460	117	FEMALE	1	1	5	9	47	33	14	6	1
	225	TOTAL	2	4	7	22	91	61	27	7	4
	110	MALE	0	1	12	21	35	29	9	2	1
461	117	FEMALE	1	6	7	31	30	24	15	2	1
	227	TOTAL	1	7	19	52	65	53	24	4	2
	110	MALE	1	1	2	8	59	20	11	1	7
462	117	FEMALE	2	3	5	8	61	19	10	4	5
	227	TOTAL	3	4	7	16	120	39	21	5	12
	110	MALE	1	1	3	10	31	43	20	0	1
463	116	FEMALE	1	2	3	3	23	48	20	10	6
	226	TOTAL	2	3	6	13	54	91	40	10	7
	110	MALE	1	3	4	9	72	15	1	2	3
464	117	FEMALE	4	6	5	9	66	17	5	1	4
	227	TOTAL	5	9	9	18	138	32	6	3	7

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	0	1	10	15	42	19	15	4	3
465	117	FEMALE	2	2	4	28	32	31	12	5	1
	226	TOTAL	2	3	14	43	74	50	27	9	4
	110	MALE	0	0	4	12	47	22	11	10	4
466	116	FEMALE	2	2	9	7	53	18	12	8	5
	226	TOTAL	2	2	13	19	100	40	23	18	9
	109	MALE	1	2	4	19	55	16	8	2	2
467	117	FEMALE	3	6	8	14	58	20	5	2	1
	226	TOTAL	4	8	12	33	113	36	13	4	3
	110	MALE	0	7	22	34	16	22	5	3	1
468	116	FEMALE	1	6	22	32	16	20	15	2	2
	226	TOTAL	1	13	44	66	32	42	20	5	3
	110	MALE	0	8	26	30	24	9	8	3	2
469	117	FEMALE	3	8	31	32	23	14	4	2	0
	227	TOTAL	3	16	57	62	47	23	12	5	2
	110	MALE	12	23	29	19	21	4	1	1	0
470	117	FEMALE	14	36	33	11	14	7	2	0	0
	227	TOTAL	26	59	62	30	35	11	3	1	0
	110	MALE	3	6	29	21	41	6	2	1	1
471	116	FEMALE	5	13	32	31	27	5	2	0	1
	226	TOTAL	8	19	61	52	68	11	4	1	2
	110	MALE	3	2	10	12	28	19	21	11	4
472	117	FEMALE	4	8	11	15	34	21	16	7	1
	227	TOTAL	7	10	21	27	62	40	37	18	5
	110	MALE	0	7	26	40	24	5	6	1	1
473	117	FEMALE	4	6	30	38	22	10	6	0	1
	227	TOTAL	4	13	56	78	46	15	12	1	2
	109	MALE	0	5	3	12	66	9	9	2	3
474	117	FEMALE	1	3	5	11	67	15	8	6	1
	226	TOTAL	1	8	8	23	133	24	17	8	4
	110	MALE	0	1	10	30	46	12	7	4	0
475	116	FEMALE	2	6	13	33	30	25	7	0	0
	226	TOTAL	2	7	23	63	76	37	14	4	0
	110	MALE	4	5	7	7	38	22	13	11	3
476	117	FEMALE	10	7	6	6	44	19	11	9	5
	227	TOTAL	14	12	13	13	82	41	24	20	8
	110	MALE	0	2	4	5	22	28	30	16	3
477	117	FEMALE	2	1	11	22	20	28	20	10	3
	227	TOTAL	2	3	15	27	42	56	50	26	6
	110	MALE	1	1	3	14	40	29	17	4	1
478	117	FEMALE	2	3	8	21	42	23	13	4	1
	227	TOTAL	3	4	11	35	82	52	30	8	2
	110	MALE	1	1	3	5	27	42	27	3	1
479	117	FEMALE	1	2	2	4	22	50	25	9	2
	227	TOTAL	2	3	5	9	49	92	52	12	3

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	5	30	38	25	8	1	1	0
480	117	FEMALE	2	14	25	38	22	6	6	2	2
	227	TOTAL	4	19	55	76	47	14	7	3	2
	110	MALE	1	1	6	34	40	20	5	2	1
481	117	FEMALE	5	3	8	37	40	10	10	3	1
	227	TOTAL	6	4	14	71	80	30	15	5	2
	109	MALE	0	1	3	3	23	53	22	2	2
482	117	FEMALE	2	4	5	7	29	40	24	6	0
	226	TOTAL	2	5	8	10	52	93	46	8	2
	109	MALE	2	1	1	4	43	17	21	10	10
483	116	FEMALE	2	1	3	3	37	17	18	23	12
	225	TOTAL	4	2	4	7	80	34	39	33	22
	110	MALE	1	8	18	25	27	18	8	4	1
484	117	FEMALE	4	7	12	31	28	17	12	6	0
	227	TOTAL	5	15	30	56	55	35	20	10	1
	110	MALE	0	4	10	15	40	22	12	4	3
485	117	FEMALE	2	5	16	27	32	14	15	5	1
	227	TOTAL	2	9	26	42	72	36	27	9	4
	110	MALE	2	5	4	5	64	13	4	6	7
486	117	FEMALE	2	4	2	11	67	15	3	4	9
	227	TOTAL	4	9	6	16	131	28	7	10	16
	110	MALE	4	4	27	41	19	10	4	0	1
487	117	FEMALE	2	9	37	41	13	10	4	1	0
	227	TOTAL	6	13	64	82	32	20	8	1	1
	110	MALE	2	1	2	3	30	29	28	9	6
488	117	FEMALE	3	4	1	2	30	32	34	10	1
	227	TOTAL	5	5	3	5	60	61	62	19	7
	110	MALE	4	2	4	15	13	48	21	2	1
489	117	FEMALE	3	3	3	15	22	40	26	3	2
	227	TOTAL	7	5	7	30	35	88	47	5	3
	110	MALE	3	1	4	5	38	27	20	8	4
490	117	FEMALE	7	3	2	2	45	25	22	9	2
	227	TOTAL	10	4	6	7	83	52	42	17	6
	110	MALE	4	14	21	39	17	8	6	1	0
491	117	FEMALE	4	11	25	37	27	6	3	4	0
	227	TOTAL	8	25	46	76	44	14	9	5	0
	109	MALE	4	16	18	19	35	10	3	4	0
492	116	FEMALE	3	20	18	29	29	8	6	1	2
	225	TOTAL	7	36	36	48	64	18	9	5	2
	109	MALE	2	1	4	10	29	37	18	8	0
493	117	FEMALE	0	3	7	3	33	37	24	9	1
	226	TOTAL	2	4	11	13	62	74	42	17	1
	110	MALE	3	5	27	36	24	9	5	1	0
494	117	FEMALE	5	16	27	33	27	3	5	1	0
	227	TOTAL	8	21	54	69	51	12	10	2	0

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	0	0	3	8	37	32	21	8	1
495	117	FEMALE	2	4	6	7	37	34	19	7	1
	227	TOTAL	2	4	9	15	74	66	40	15	2
	110	MALE	2	2	2	11	62	16	10	1	4
496	117	FEMALE	3	2	9	7	64	20	5	6	1
	227	TOTAL	5	4	11	18	126	36	15	7	5
	110	MALE	1	0	0	2	10	34	44	15	4
497	117	FEMALE	2	0	0	2	12	29	44	23	5
	227	TOTAL	3	0	0	4	22	63	88	38	9
	110	MALE	0	1	3	4	18	33	28	18	5
498	117	FEMALE	0	0	2	8	23	33	27	19	5
	227	TOTAL	0	1	5	12	41	66	55	37	10
	110	MALE	1	4	18	30	23	22	8	4	0
499	115	FEMALE	0	3	19	31	27	19	10	2	4
	225	TOTAL	1	7	37	61	50	41	18	6	4
	110	MALE	0	0	3	12	37	20	22	15	1
500	117	FEMALE	0	0	2	14	31	26	31	9	4
	227	TOTAL	0	0	5	26	68	46	53	24	5
	110	MALE	0	1	2	7	32	38	21	9	0
501	117	FEMALE	2	1	0	9	31	33	30	10	1
	227	TOTAL	2	2	2	16	63	71	51	19	1
	110	MALE	0	0	1	9	15	37	36	10	2
502	117	FEMALE	1	0	2	4	17	42	34	13	4
	227	TOTAL	1	0	3	13	32	79	70	23	6
	110	MALE	0	0	6	19	53	21	7	4	0
503	117	FEMALE	1	2	4	26	45	20	14	5	0
	227	TOTAL	1	2	10	45	98	41	21	9	0
	109	MALE	1	3	12	29	28	25	7	3	1
504	117	FEMALE	0	4	17	27	31	25	8	4	1
	226	TOTAL	1	7	29	56	59	50	15	7	2
	108	MALE	1	4	9	7	28	30	24	4	1
505	117	FEMALE	2	7	10	9	32	31	17	9	0
	225	TOTAL	3	11	19	16	60	61	41	13	1
	110	MALE	0	3	10	23	41	15	14	2	2
506	117	FEMALE	0	7	17	24	39	14	9	6	1
	227	TOTAL	0	10	27	47	80	29	23	8	3
	110	MALE	3	12	30	23	20	11	10	1	1
507	116	FEMALE	4	15	24	42	17	5	8	0	0
	226	TOTAL	7	27	54	65	37	16	18	1	1
	109	MALE	0	0	4	2	48	23	18	8	6
508	117	FEMALE	0	0	2	4	49	30	20	8	4
	226	TOTAL	0	0	6	6	97	53	38	16	10
	109	MALE	1	2	17	43	23	14	5	3	1
509	117	FEMALE	2	3	18	44	23	13	10	1	3
	226	TOTAL	3	5	35	87	46	27	15	4	4

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	2	23	23	24	28	5	1	2	2
510	116	FEMALE	7	20	29	26	24	7	2	1	0
	226	TOTAL	9	43	52	50	52	12	3	3	2
	110	MALE	1	4	8	21	45	23	4	2	2
511	116	FEMALE	2	7	9	30	38	20	8	1	1
	226	TOTAL	3	11	17	51	83	43	12	3	3
	110	MALE	3	6	32	36	18	9	2	3	1
512	117	FEMALE	10	20	26	29	19	3	5	3	2
	227	TOTAL	13	26	58	65	37	12	7	6	3
	107	MALE	2	1	2	3	48	28	15	7	1
513	117	FEMALE	0	1	2	4	68	17	16	7	2
	224	TOTAL	2	2	4	7	116	45	31	14	3
	110	MALE	1	6	9	4	18	36	31	4	1
514	115	FEMALE	6	9	7	10	28	27	20	7	1
	225	TOTAL	7	15	16	14	46	63	51	11	2
	110	MALE	0	0	0	5	37	36	17	11	4
515	117	FEMALE	1	1	0	1	37	30	25	13	9
	227	TOTAL	1	1	0	6	74	66	42	24	13
	110	MALE	1	3	13	38	28	15	8	4	0
516	117	FEMALE	1	2	11	35	35	13	12	5	3
	227	TOTAL	2	5	24	73	63	28	20	9	3
	110	MALE	6	24	33	22	16	4	3	2	0
517	117	FEMALE	13	35	30	20	10	4	4	0	1
	227	TOTAL	19	59	63	42	26	8	7	2	1
	110	MALE	2	6	22	41	21	9	6	3	0
518	117	FEMALE	2	6	34	42	15	12	6	0	0
	227	TOTAL	4	12	56	83	36	21	12	3	0
	110	MALE	4	19	29	21	29	7	0	1	0
519	117	FEMALE	11	25	26	18	32	3	1	1	0
	227	TOTAL	15	44	55	39	61	10	1	2	0
	109	MALE	0	1	3	8	27	23	29	16	2
520	115	FEMALE	1	5	8	6	31	20	28	13	3
	224	TOTAL	1	6	11	14	58	43	57	29	5
	110	MALE	0	0	3	7	23	31	30	11	5
521	117	FEMALE	1	0	4	9	25	27	35	10	6
	227	TOTAL	1	0	7	16	48	58	65	21	11
	110	MALE	0	0	5	10	51	24	11	4	5
522	117	FEMALE	4	8	4	6	48	25	11	8	3
	227	TOTAL	4	8	9	16	99	49	22	12	8
	110	MALE	0	2	1	12	52	28	7	6	2
523	117	FEMALE	2	3	4	11	50	29	10	7	1
	227	TOTAL	2	5	5	23	102	57	17	13	3
	110	MALE	1	3	1	9	58	21	10	3	4
524	114	FEMALE	8	5	3	8	45	31	6	7	1
	224	TOTAL	9	8	4	17	103	52	16	10	5

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	1	1	16	44	27	12	6	1	1
525	117	FEMALE	1	5	25	38	27	7	6	6	2
	226	TOTAL	2	6	41	82	54	19	12	7	3
	108	MALE	7	28	28	11	26	6	1	1	0
526	117	FEMALE	18	40	26	10	14	5	2	2	0
	225	TOTAL	25	68	54	21	40	11	3	3	0
	107	MALE	0	0	5	6	19	25	35	12	5
527	116	FEMALE	1	2	1	2	18	23	40	24	5
	223	TOTAL	1	2	6	8	37	48	75	36	10
	109	MALE	0	1	3	12	52	24	10	5	2
528	117	FEMALE	0	1	3	8	55	26	20	2	2
	226	TOTAL	0	2	6	20	107	50	30	7	4
	109	MALE	1	1	2	7	21	38	26	9	4
529	117	FEMALE	2	2	1	4	27	40	22	14	5
	226	TOTAL	3	3	3	11	48	78	48	23	9
	109	MALE	2	3	18	35	31	13	5	1	1
530	117	FEMALE	2	8	17	44	33	8	3	1	1
	226	TOTAL	4	11	35	79	64	21	8	2	2
	109	MALE	1	2	17	29	36	15	6	2	1
531	116	FEMALE	4	4	19	32	30	19	8	0	0
	225	TOTAL	5	6	36	61	66	34	14	2	1
	110	MALE	1	0	2	11	48	23	20	3	2
532	117	FEMALE	2	0	7	10	46	29	15	8	0
	227	TOTAL	3	0	9	21	94	52	35	11	2
	110	MALE	1	1	2	14	57	19	11	1	4
533	117	FEMALE	5	3	10	12	52	20	10	4	1
	227	TOTAL	6	4	12	26	109	39	21	5	5
	109	MALE	0	1	2	11	35	29	20	9	2
534	117	FEMALE	0	2	6	10	32	33	19	9	6
	226	TOTAL	0	3	8	21	67	62	39	18	8
	109	MALE	1	3	21	22	48	6	5	3	0
535	117	FEMALE	3	8	14	30	44	12	3	1	2
	226	TOTAL	4	11	35	52	92	18	8	4	2
	109	MALE	1	16	28	24	22	11	5	2	0
536	117	FEMALE	4	14	34	28	10	11	12	1	3
	226	TOTAL	5	30	62	52	32	22	17	3	3
	109	MALE	1	6	9	8	18	30	29	6	2
537	117	FEMALE	13	9	6	9	22	27	22	8	1
	226	TOTAL	14	15	15	17	40	57	51	14	3
	110	MALE	2	2	5	6	22	48	21	3	1
538	117	FEMALE	5	1	7	7	26	38	22	7	4
	227	TOTAL	7	3	12	13	48	86	43	10	5
	108	MALE	0	1	8	10	51	24	9	2	3
539	117	FEMALE	4	6	8	11	48	24	7	6	3
	225	TOTAL	4	7	16	21	99	48	16	8	6

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	110	MALE	4	1	0	8	63	14	9	3	8
540	117	FEMALE	7	3	2	4	63	19	10	1	8
	227	TOTAL	11	4	2	12	126	33	19	4	16
	110	MALE	3	1	15	21	45	14	9	1	1
541	117	FEMALE	2	1	12	31	40	23	6	1	1
	227	TOTAL	5	2	27	52	85	37	15	2	2
	110	MALE	4	3	4	9	61	11	11	3	4
542	116	FEMALE	7	4	7	10	62	16	3	2	5
	226	TOTAL	11	7	11	19	123	27	14	5	9
	108	MALE	2	18	29	29	19	6	4	1	0
543	117	FEMALE	8	22	36	24	20	4	2	0	1
	225	TOTAL	10	40	65	53	39	10	6	1	1
	109	MALE	2	9	19	33	31	10	2	2	1
544	116	FEMALE	1	9	31	30	31	9	2	3	0
	225	TOTAL	3	18	50	63	62	19	4	5	1
	110	MALE	2	3	3	19	61	15	3	3	1
545	117	FEMALE	0	2	8	26	57	16	6	1	1
	227	TOTAL	2	5	11	45	118	31	9	4	2
	108	MALE	1	3	1	1	12	37	38	12	3
546	117	FEMALE	4	1	1	2	13	38	36	19	3
	225	TOTAL	5	4	2	3	25	75	74	31	6
	109	MALE	0	0	0	1	5	34	46	16	7
547	117	FEMALE	1	1	1	2	9	26	46	27	4
	226	TOTAL	1	1	1	3	14	60	92	43	11
	109	MALE	2	5	18	37	34	7	2	0	4
548	114	FEMALE	2	4	16	30	43	11	6	2	0
	223	TOTAL	4	9	34	67	77	18	8	2	4
	108	MALE	1	6	22	35	25	12	4	1	2
549	116	FEMALE	1	16	28	38	22	8	3	0	0
	224	TOTAL	2	22	50	73	47	20	7	1	2
	108	MALE	0	1	1	3	24	47	22	6	4
550	117	FEMALE	2	6	3	4	37	45	15	5	0
	225	TOTAL	2	7	4	7	61	92	37	11	4
	108	MALE	1	3	9	36	30	15	10	3	1
551	117	FEMALE	1	5	11	44	29	20	6	1	0
	225	TOTAL	2	8	20	80	59	35	16	4	1
	108	MALE	0	1	1	3	12	43	35	9	4
552	117	FEMALE	3	1	4	3	19	43	29	14	1
	225	TOTAL	3	2	5	6	31	86	64	23	5
	108	MALE	3	6	27	36	24	5	6	0	1
553	117	FEMALE	5	13	27	34	22	7	6	1	2
	225	TOTAL	8	19	54	70	46	12	12	1	3
	109	MALE	0	2	1	2	14	42	35	11	2
554	117	FEMALE	3	1	2	2	10	37	41	19	2
	226	TOTAL	3	3	3	4	24	79	76	30	4

Table A4.2 (continued)

ITEM NO.	N	GROUPS	FREQUENCY DISTRIBUTION -4	-3	-2	-1	0	+1	+2	+3	+4
	109	MALE	3	10	34	22	26	10	2	1	1
555	117	FEMALE	5	15	36	28	20	7	4	2	0
	226	TOTAL	8	25	70	50	46	17	6	3	1
	109	MALE	0	0	3	10	34	30	20	11	1
556	117	FEMALE	2	0	4	7	39	30	22	11	2
	226	TOTAL	2	0	7	17	73	60	42	22	3
	108	MALE	1	3	5	6	25	41	23	3	1
557	116	FEMALE	3	3	4	6	24	38	25	11	2
	224	TOTAL	4	6	9	12	49	79	48	14	3
	109	MALE	2	16	20	26	27	10	3	5	0
558	117	FEMALE	3	11	36	22	32	7	2	3	1
	226	TOTAL	5	27	56	48	59	17	5	8	1
	109	MALE	1	9	26	32	30	5	5	0	1
559	117	FEMALE	5	9	31	33	28	7	3	1	0
	226	TOTAL	6	18	57	65	58	12	8	1	1
	109	MALE	4	11	28	26	19	11	7	2	1
560	117	FEMALE	1	16	28	32	26	5	6	3	0
	226	TOTAL	5	27	56	58	45	16	13	5	1
	109	MALE	2	0	2	5	14	13	37	31	5
561	117	FEMALE	2	2	3	1	22	11	31	37	8
	226	TOTAL	4	2	5	6	36	24	68	68	13
	109	MALE	0	0	0	5	25	13	33	29	4
562	117	FEMALE	2	0	2	2	23	17	22	34	15
	226	TOTAL	2	0	2	7	48	30	55	63	19
	109	MALE	0	0	1	3	25	32	33	11	4
563	117	FEMALE	3	1	3	4	27	28	38	11	2
	226	TOTAL	3	1	4	7	52	60	71	22	6
	109	MALE	2	2	11	34	29	18	8	4	1
564	116	FEMALE	1	2	20	37	29	14	8	4	1
	225	TOTAL	3	4	31	71	58	32	16	8	2
	109	MALE	10	10	16	19	28	15	6	1	4
565	117	FEMALE	15	15	26	19	27	8	7	0	0
	226	TOTAL	25	25	42	38	55	23	13	1	4
	108	MALE	1	0	2	3	11	30	41	15	5
566	117	FEMALE	0	1	1	2	9	35	41	20	8
	225	TOTAL	1	1	3	5	20	65	82	35	13

APPENDIX B

Table B4.1

Table of 566 MMPI Items with Means, Standard Deviations, and Number of Subjects for the Male Group - Submissive-Dominance Dimension, then Hate-Love.

ITEM	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.
001	110	0.9454	1.4001	110	1.1182	1.1943
002	110	1.3818	1.3132	110	1.5727	1.2075
003	109	1.0275	1.2653	110	1.3273	1.2858
004	110	-0.2455	1.4411	107	0.5888	1.3243
005	110	-0.3091	1.4823	109	-0.2936	1.4357
006	110	0.9182	1.4408	109	0.7064	1.6404
007	110	0.5364	1.2091	110	0.5364	1.0894
008	110	1.4182	1.3572	110	1.7909	1.1341
009	109	1.1376	1.4812	110	0.9636	1.3267
010	110	-0.9364	1.2655	110	-0.5545	1.1931
011	110	-0.0545	1.6132	110	0.3273	1.3955
012	110	1.1909	1.2671	110	1.2636	1.3991
013	110	0.2000	1.8214	108	-0.8889	1.5245
014	109	-0.6239	1.5202	109	-1.0459	1.2938
015	110	-0.6000	1.5633	109	-1.0092	1.3777
016	110	-0.9818	1.9394	110	-1.5636	1.6228
017	109	1.3119	1.6026	110	1.9909	1.3847
018	109	0.4771	1.4116	109	0.0917	1.3847
019	110	0.6273	1.5377	110	0.2909	1.5700
020	110	1.0727	1.2901	109	1.0459	1.3769
021	110	0.3273	1.6541	109	-0.3853	1.8802
022	110	-0.9182	1.5629	110	-0.3727	1.6019
023	110	-1.0000	1.3814	110	-1.2636	1.4694
024	109	-0.9449	1.7839	109	-1.2569	1.5420
025	108	0.8148	1.4607	110	1.1273	1.4845
026	109	-0.2569	1.7395	110	-0.0364	1.2556
027	108	-1.2315	1.9604	109	-1.4220	1.5533
028	109	1.2018	1.7627	110	-1.1636	1.7637
029	109	-0.6697	1.5279	109	-0.8532	1.4958
030	109	0.5963	1.4018	110	-0.3727	1.6134
031	109	-0.5963	1.5463	110	-0.9909	1.4109
032	110	-0.7455	1.4363	110	-0.5545	1.2008
033	110	-0.0727	1.6182	110	-0.2909	1.2514
034	110	-0.6364	1.3322	110	-0.6909	1.3929
035	110	-1.1818	1.8778	109	-1.3578	1.6472
036	110	0.8909	1.4358	110	0.5091	1.4636
037	110	0.9909	1.5533	110	0.6727	1.4596
038	110	0.0909	1.4561	110	-0.5909	1.3361
039	110	0.7909	1.9681	110	-1.2455	1.6710
040	109	-0.5688	1.5715	110	0.4727	1.3389
041	110	-1.0727	1.6068	110	-0.6818	1.4331
042	110	-0.1273	1.6924	110	-0.9636	1.3541
043	109	-0.7798	1.4679	110	-1.2818	1.2859

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
044	109	-1.1101	1.4804	109	-1.2569	1.5117
045	110	0.1182	1.6630	110	-0.5727	1.3373
046	109	1.4679	1.4048	110	1.3273	1.3755
047	110	-0.6273	1.4133	110	-0.7091	1.1913
048	109	-0.7064	1.6061	110	-1.0182	1.2991
049	110	0.6545	2.0428	109	-1.3303	1.8005
050	110	-0.9818	1.8323	110	-0.4636	1.6405
051	110	1.2727	1.6136	110	1.1636	1.4622
052	110	-0.2818	1.9401	110	-0.7545	1.4538
053	110	-0.1636	2.0115	110	0.3273	1.8229
054	109	1.2936	1.3074	109	1.8807	1.1997
055	110	0.7273	1.6136	110	0.4818	1.4189
056	110	0.2636	1.7851	109	-0.8624	1.4238
057	110	1.6727	1.2787	110	1.6636	1.1193
058	109	-0.1743	2.0721	109	0.7156	1.5159
059	110	-0.2636	1.9893	110	-1.0818	1.6708
060	110	0.5000	1.4636	110	0.0546	1.2767
061	110	-0.9273	1.6848	110	-1.3273	1.5391
062	108	-0.6574	1.4861	109	-0.6239	1.3319
063	110	0.9909	1.5709	110	0.4727	1.3993
064	110	1.3545	1.5946	109	-0.2294	1.4696
065	110	1.4909	1.6465	110	2.8364	1.2817
066	110	0.1455	1.9004	110	0.1364	1.7529
067	110	-0.8000	1.7016	110	-0.3091	1.6297
068	110	0.4000	1.4476	110	0.2727	1.4006
069	110	0.3364	2.2187	110	0.7636	2.1964
070	108	-0.1204	1.5451	109	0.1743	1.2827
071	110	0.8455	1.5396	110	-0.6909	1.4885
072	110	-0.6909	1.5898	109	-0.9633	1.3047
073	110	2.3000	1.4561	110	1.6636	1.6214
074	110	-0.6455	1.8304	110	-0.3727	1.9994
075	109	0.9174	1.4601	110	-0.3182	1.5618
076	110	-1.1364	1.6112	110	-1.1636	1.3514
077	110	0.5273	1.6351	110	1.3364	1.2727
078	110	0.6182	1.4270	108	1.2963	1.1622
079	110	1.0182	1.5854	109	0.4220	1.5049
080	108	1.0185	1.4075	109	-0.4587	1.3979
081	107	0.5421	1.6499	110	0.8818	1.2903
082	109	-1.3853	1.9241	110	-0.6909	1.3596
083	108	2.0370	1.2819	110	1.4727	1.3458
084	109	-0.5413	2.1539	110	-0.3545	1.8153
085	109	-0.3303	1.9582	110	-0.7182	1.9542
086	109	-1.4037	1.9442	110	-1.1455	1.4579
087	109	0.1559	1.5286	110	0.7636	1.5559
088	106	1.3868	1.3279	110	1.8818	1.1148
089	109	1.2569	1.4103	110	-0.5091	1.3596
090	108	-0.2315	1.5921	110	-0.0364	1.4957

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
091	109	-0.1468	1.7993	110	-0.0364	1.5079
092	109	0.3578	1.4815	109	0.6789	1.6266
093	109	0.7431	1.5835	110	-0.5364	1.7488
094	108	-0.5463	1.6199	110	-0.8182	1.6095
095	109	0.3669	1.8691	110	1.0545	1.6246
096	108	0.3704	1.6268	110	0.9273	1.6684
097	109	0.5963	1.9203	110	-0.8000	1.7960
098	109	0.6789	1.9902	110	1.4636	1.6792
099	109	1.4312	1.4868	110	1.4091	1.4918
100	109	-0.6789	1.6209	110	0.0909	1.4113
101	109	1.2110	1.7000	110	1.2636	1.5366
102	109	0.5046	1.7931	110	0.2182	1.9031
103	108	0.5648	1.4679	110	0.2909	1.1758
104	110	-1.3364	1.9218	108	-1.3704	1.5076
105	110	0.0273	1.6337	109	-0.6881	1.4826
106	110	-0.9545	1.7047	107	-1.6168	1.4899
107	109	1.2385	1.5569	109	2.0275	1.1423
108	110	-0.4091	1.3767	109	-0.6147	1.2539
109	108	1.0278	1.9644	109	-0.8165	1.7647
110	109	-1.5590	1.9869	108	-1.5093	1.5316
111	108	-0.5185	1.8469	109	0.1468	1.4326
112	110	1.8909	1.6609	109	1.5046	1.3307
113	109	1.5872	1.2708	110	1.4818	1.7119
114	109	-0.8991	1.4526	109	0.7156	1.5991
115	109	1.4679	1.5549	109	0.7339	1.9467
116	109	0.7248	1.4961	109	1.0000	1.4782
117	108	-0.3796	1.4643	108	-0.1204	1.7758
118	108	-0.5185	1.2787	110	0.5091	1.5840
119	109	0.4037	1.0981	110	0.4273	1.3644
120	109	0.0642	1.1162	110	-0.0273	1.5112
121	110	-1.6000	1.4974	110	-1.1818	1.8383
122	110	1.1091	1.4421	109	1.1651	1.5783
123	110	-1.1727	1.4262	109	-1.0550	1.7682
124	110	-0.8364	1.6729	109	0.3669	1.6367
125	110	-0.9636	1.5440	110	-0.6727	1.4596
126	110	1.1182	1.1866	110	0.9273	1.4759
127	108	-0.4167	1.5293	110	0.5000	1.7544
128	110	0.3364	1.1111	110	0.7091	1.5346
129	110	-0.6545	1.3164	110	0.0545	1.4952
130	110	0.0909	1.4686	110	0.3000	1.6509
131	110	0.3182	1.4522	108	0.8796	1.6447
132	110	1.0455	1.5288	110	0.2727	1.5849
133	110	0.2091	1.4906	109	0.1651	1.7454
134	110	0.1273	1.2929	110	0.5818	1.4862
135	110	-0.1636	1.3099	110	0.8545	1.6189
136	110	-0.7091	1.2946	110	-0.1545	1.5981
137	110	1.5182	1.1866	110	0.8091	1.3847

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
138	110	-0.9636	1.7709	110	-1.0727	1.8706
139	110	-1.5091	1.5782	110	-0.0455	1.8837
140	110	1.3182	1.2988	109	0.7889	1.4534
141	110	-1.0737	1.8706	110	0.1455	1.2695
142	110	-1.0454	1.7261	110	-1.0091	1.4239
143	110	0.4182	1.7888	109	1.3486	1.5298
144	110	0.7818	1.7939	110	0.3000	1.8551
145	110	1.0000	1.9908	110	-0.8273	1.6802
146	110	0.4727	1.7646	110	-0.1727	1.4706
147	108	-0.8796	1.4834	110	-0.6909	1.3045
148	110	1.0000	1.6590	110	-0.9182	1.4908
149	109	-0.3211	1.4069	110	0.2364	1.3941
150	110	1.9182	1.4020	110	1.0818	1.3756
151	109	-1.1468	1.8994	110	-1.9000	1.6421
152	109	0.6606	1.4670	110	0.6091	1.3348
153	110	1.3182	1.4331	110	1.2727	1.3127
154	110	0.6273	1.7809	110	0.4818	1.8510
155	110	0.6364	1.2831	110	0.2909	1.1361
156	110	-0.7182	1.6653	110	-0.6273	1.2912
157	109	-0.6239	1.6318	110	-1.4000	1.3827
158	110	-1.1545	1.7090	110	-0.5273	1.5066
159	110	-0.5364	1.3456	109	-0.5963	1.3342
160	109	1.3945	1.6217	109	1.5872	1.8469
161	108	-0.4629	1.3701	109	-0.5596	1.2504
162	109	0.2661	1.9372	108	-0.9537	1.5186
163	110	1.3818	1.5143	110	0.8273	1.3331
164	110	1.2636	1.4756	110	1.6364	1.1552
165	110	0.7727	1.7434	109	1.0550	1.4197
166	110	-0.7455	1.6166	110	-0.6364	1.3796
167	110	0.4636	1.7645	110	-0.6182	1.5384
168	110	-1.1364	1.8046	110	-1.2727	1.5907
169	110	1.3091	1.4699	107	0.8972	1.4790
170	110	1.5273	1.7065	110	0.4454	1.7272
171	110	-0.8091	1.6782	110	-0.5455	1.3723
172	110	-0.4182	1.7525	110	-0.3273	1.4019
173	110	0.8818	1.5547	110	1.4455	1.1619
174	110	0.7636	1.7077	110	0.2636	1.4819
175	110	0.5364	1.5836	110	0.3364	1.4480
176	109	0.9358	1.4862	110	0.1727	1.4892
177	110	1.2727	1.5078	107	2.2897	1.1075
178	110	0.9000	1.5019	110	1.1727	1.3193
179	110	-0.7818	1.6219	110	-0.6455	1.5479
180	110	-0.7545	1.6434	110	-0.3545	1.5715
181	110	1.4455	1.2309	110	0.7273	1.4201
182	110	-1.0727	1.7542	110	-1.2000	1.6962
183	110	1.0455	1.5168	110	-0.8727	1.4968
184	110	-1.0727	1.6125	110	-1.1091	1.5875

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
185	110	0.7545	1.5981	110	0.8818	1.2469
186	110	-0.9545	1.2662	110	-0.7727	1.2898
187	109	0.8257	1.4066	110	0.4455	1.4936
188	110	0.9273	1.5187	110	0.6273	1.2983
189	110	-0.9364	1.5986	110	-1.0455	1.2949
190	110	0.6000	1.4974	110	0.6091	1.5509
191	109	-0.9445	1.6321	110	-1.1000	1.6807
192	110	1.0909	1.5417	110	0.6727	1.4968
193	110	0.6636	1.6327	110	0.4909	1.4636
194	110	-0.9364	1.6934	109	-0.9908	1.5723
195	109	1.1376	1.4238	110	-0.5364	1.7697
196	109	1.4312	1.4166	110	1.8000	1.3999
197	109	-0.7523	1.6675	110	-1.4273	1.4555
198	110	0.6727	1.3210	110	0.2455	1.2935
199	110	0.9273	1.5187	109	0.9358	1.5651
200	110	-0.7909	1.7352	110	-1.4636	1.5425
201	109	-0.9908	1.6859	110	-0.3636	1.6575
202	110	-1.2636	1.8705	110	-1.8636	1.7529
203	110	0.6818	1.4073	110	1.2000	1.5253
204	110	0.9091	1.5117	110	1.2727	1.1163
205	110	-0.3364	1.9313	110	-1.1545	1.6038
206	110	0.5636	2.0297	110	1.3000	1.7793
207	109	1.3394	1.4983	110	1.8636	1.2669
208	110	1.3818	1.5854	110	1.4223	1.1844
209	110	-0.9454	2.1282	110	-1.7545	1.6765
210	109	-0.4220	1.5049	109	-0.6789	1.2463
211	108	-0.6481	1.6594	109	-0.7798	1.3968
212	109	-1.0092	1.6915	109	-1.3119	1.3723
213	110	-0.8709	1.6914	109	-0.4312	1.3768
214	110	0.3909	1.6373	109	0.0642	1.5413
215	109	-0.3853	2.0180	109	-1.0826	1.7327
216	110	-0.6364	1.6012	109	-1.2477	1.8061
217	110	-0.6091	1.7139	109	-0.6518	1.4806
218	110	0.6182	1.8719	109	-1.1009	1.7371
219	109	0.8807	1.5075	109	0.9724	1.4367
220	108	1.3889	1.7122	109	2.8073	1.3901
221	110	1.0545	1.3736	108	1.5370	1.2562
222	108	0.8426	1.6472	109	0.5229	1.5788
223	110	1.4182	1.6611	109	1.2844	1.8211
224	109	0.3853	1.6882	109	-0.6330	1.2886
225	110	0.3182	1.2186	109	-0.1284	1.379
226	108	0.5648	1.4551	109	-0.9633	1.6551
227	110	-0.5000	1.5607	108	-0.2593	1.3421
228	109	1.4954	1.3307	109	1.0734	1.3243
229	108	1.0093	1.4306	110	1.0818	1.3212
230	110	0.6000	1.4913	110	0.3727	1.2404
231	110	1.2727	1.2482	109	1.2294	1.3919

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
232	109	0.5688	1.9021	110	1.0545	1.4066
233	110	1.3182	1.8374	110	0.0091	1.6782
234	110	0.7545	1.4973	110	-0.1273	1.3953
235	110	1.6182	1.5503	109	0.6881	1.5557
236	108	-0.4722	1.6936	109	-0.6972	1.4938
237	109	-0.3119	1.6926	110	0.6636	1.2435
238	109	0.0826	1.8264	110	-0.4727	1.5605
239	110	-0.2545	1.5822	110	-0.4182	2.0471
240	109	0.9908	1.8129	110	0.2909	1.6883
241	107	-0.2804	1.5649	109	-0.0367	1.4203
242	110	0.6455	1.3585	110	0.5273	1.2541
243	109	0.8991	1.4462	110	0.5455	1.4566
244	110	0.3636	1.5664	109	-0.6514	1.3359
245	110	-0.2273	1.5602	110	-1.2000	1.3801
246	109	-0.6881	1.3519	110	-0.7818	1.3504
247	110	-0.3545	1.6456	109	-0.8257	1.6490
248	110	1.0909	1.5177	110	1.3909	1.5450
249	110	0.0273	2.0697	109	-0.1468	1.9092
250	108	0.9907	1.6772	109	-0.3119	1.6256
251	110	-0.9091	1.4370	109	-0.7431	1.3771
252	110	-0.6091	1.8578	110	-1.3636	1.5309
253	110	0.2727	1.7342	110	0.7273	1.4520
254	110	0.9091	1.4934	110	0.5000	1.5607
255	110	-0.5636	1.6947	110	-0.3364	1.1830
256	110	-0.4273	1.5293	110	-0.0909	1.5417
257	110	2.0364	1.1958	110	1.5545	1.1931
258	110	1.1182	2.0486	109	2.0459	1.5116
259	110	-0.6000	1.5516	110	-0.3455	1.4866
260	109	-0.6789	1.3936	110	-0.7000	1.3583
261	109	0.0826	1.4728	110	0.8909	1.2804
262	110	0.6000	1.4284	110	0.2818	1.5804
263	110	-0.2182	1.4738	110	-0.3545	1.2963
264	109	2.6055	1.2983	110	1.7909	1.3209
265	109	0.7706	2.2054	110	-0.8818	1.8361
266	107	0.7103	1.3529	110	0.8091	1.2957
267	109	-0.8349	1.3711	110	-0.4091	1.3834
268	108	0.6481	1.4424	110	1.1364	1.1291
269	108	1.2222	1.8911	110	-0.4727	1.8057
270	109	0.6697	1.8107	110	0.3364	1.5401
271	109	0.8807	1.9848	110	-0.7000	1.4434
272	109	1.5505	1.3910	109	1.4495	1.3087
273	109	-0.6514	1.4232	110	-0.6455	1.3919
274	109	0.7706	1.5069	110	1.0364	1.4709
275	108	-1.5185	1.9976	109	-1.3119	1.8140
276	109	0.9449	1.4583	110	2.0545	1.0390
277	109	0.6330	1.3922	110	0.3273	1.6261
278	109	-0.9083	1.4941	110	-0.8000	1.4323

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
279	108	0.1852	1.2163	110	0.0818	1.2425
280	108	0.6944	1.6375	110	-0.4455	1.4689
281	108	0.2778	1.3243	109	0.1376	1.2581
282	110	0.5000	1.4947	110	-0.6273	1.5495
283	110	1.0636	1.4160	110	1.3818	1.4651
284	110	-0.7909	1.6924	109	-0.8440	1.5406
285	110	0.4364	1.4305	110	0.6727	1.1895
286	110	-0.3273	1.8529	110	0.3818	1.6422
287	109	1.0550	1.4709	109	0.6147	1.1856
288	110	-0.9818	1.4713	110	-1.0909	1.6286
289	110	0.8636	1.7425	110	-1.0182	2.0090
290	110	0.1455	1.9244	109	-0.6606	1.4287
291	108	-1.6111	1.6679	110	-1.1818	1.4788
292	110	-0.5636	1.7533	110	-0.5636	1.3378
293	110	-1.3273	1.8078	110	-1.0818	1.5092
294	110	0.5818	1.7629	109	0.7156	1.6164
295	110	0.3545	1.4813	110	0.9818	1.3339
296	107	0.8131	1.4480	110	1.1455	1.5375
297	110	-0.7364	1.5306	110	-0.7636	1.3676
298	110	0.5000	1.6741	110	-0.2273	1.3725
299	109	0.9083	1.5785	110	0.5455	1.2967
300	108	0.5093	1.5498	110	-0.2909	1.5286
301	108	-1.0370	1.4464	110	-0.9727	1.4681
302	109	0.6514	1.7179	109	0.5872	1.5348
303	109	-0.4128	1.8013	109	-0.5779	1.6061
304	109	-1.0826	1.7593	109	-0.6697	1.4597
305	109	-1.0642	1.6059	110	-0.8545	1.4828
306	109	0.2844	1.6392	110	0.5182	1.5189
307	109	-0.1835	1.8417	110	-0.6091	1.3887
308	108	0.3426	1.8043	110	-0.6545	1.7839
309	109	0.8807	1.2599	109	0.9633	1.2317
310	108	0.8889	1.2629	109	1.1009	1.3672
311	105	0.1524	1.4662	110	-0.4545	1.3988
312	109	-0.3578	1.6246	110	-1.3636	1.4759
313	108	0.6296	1.8117	110	-0.8545	1.5903
314	109	-0.1468	1.4709	110	-0.5545	1.4563
315	109	-1.3394	1.7545	110	-1.5727	1.7737
316	110	0.6455	1.5597	109	-0.3211	1.4649
317	110	0.0273	1.7265	109	0.6972	1.4305
318	110	1.3455	1.2373	108	1.5463	1.2780
319	109	-0.1009	1.5513	108	-0.8519	1.5151
320	109	0.2202	1.3289	109	0.4312	1.2864
321	109	-1.0459	1.6124	109	-0.1927	1.4303
322	108	-0.1574	1.6128	108	-0.3056	1.3906
323	110	-0.0364	1.3941	109	-0.2477	1.4021
324	110	-0.3364	1.8832	109	-1.2110	1.7271
325	109	-0.5596	1.2429	109	-0.6147	1.3602

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
326	109	-0.9541	1.6238	109	-0.6422	1.5427
327	109	-0.3853	1.8555	108	-0.7315	1.4827
328	110	-0.6182	1.5083	109	-0.6239	1.2895
329	110	0.0909	1.6229	109	-0.3853	1.5451
330	110	0.7455	1.6614	109	0.5138	1.7513
331	110	-1.0818	1.8873	109	-1.5505	1.4750
332	110	-0.6091	1.3687	108	-0.4722	1.1638
333	110	-0.8727	1.6541	109	-1.1284	1.5037
334	110	-0.5818	1.3436	108	-0.6574	1.3054
335	110	-0.5000	1.5250	110	-0.2636	1.1784
336	110	0.4727	1.8057	110	-1.0273	1.3441
337	110	-0.8909	1.5286	109	-1.1284	1.4408
338	110	-0.5000	1.4573	110	-0.8727	1.4968
339	109	-1.8624	2.1058	110	-2.2818	1.7616
340	110	0.2091	1.6651	109	0.0642	1.4355
341	110	-0.2455	1.4411	110	-0.5091	1.2689
342	108	-0.1019	1.5464	107	-0.4393	1.4087
343	110	-0.4727	1.5127	110	-0.2273	1.1704
344	110	-1.2727	1.6968	110	-0.9455	1.5494
345	110	-0.9636	1.4647	109	-0.7064	1.4096
346	110	-0.2364	1.4585	110	-0.2909	1.3969
347	110	0.6545	1.6779	110	0.9091	1.5944
348	108	0.0833	1.7300	108	-0.3056	1.3003
349	109	-0.2202	1.4166	109	-0.4954	1.3097
350	110	-0.7455	1.5171	110	-0.7818	1.3089
351	110	-1.0636	1.5813	110	-1.0455	1.4037
352	110	-1.2545	1.6052	110	-0.7909	1.4277
353	110	1.0727	1.5663	110	0.8182	1.5336
354	109	-1.0550	1.5386	110	-0.8182	1.3958
355	110	0.5727	2.0653	110	-1.3545	1.8253
356	109	-0.5688	1.4166	110	-0.5545	1.2159
357	110	-1.1727	1.7019	110	-0.8091	1.2957
358	110	-0.8000	1.6073	110	-1.1273	1.4406
359	110	-0.8364	1.4496	110	-0.8545	1.3467
360	110	-1.3364	1.4732	110	-1.2273	1.3039
361	110	-1.0000	1.4399	110	-0.6364	1.4635
362	110	-0.3818	1.7187	110	0.4182	1.3639
363	110	-1.0727	1.9381	110	-0.3727	1.8516
364	110	-0.9091	1.6173	110	-1.4000	1.4155
365	109	-0.7064	1.4676	108	-0.8241	1.2292
366	109	-0.8991	1.6383	110	-0.8818	1.4254
367	110	1.0727	1.5838	110	0.1727	1.4133
368	109	-0.7431	1.7342	110	-0.4091	1.4608
369	110	1.0000	1.3548	110	0.6545	1.3507
370	110	0.5364	1.5485	110	-0.7818	1.8293
371	109	0.6330	1.5376	110	0.3000	1.2674
372	110	0.8000	1.4577	110	0.6636	1.1274

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
373	110	1.1091	1.8140	109	0.9817	1.6442
374	110	-0.2182	1.3229	109	-0.2110	1.1472
375	110	-0.7727	1.5365	109	-0.8899	1.5113
376	107	0.5234	1.3413	110	0.8909	1.2440
377	110	-0.7364	1.6293	110	-0.2636	1.2756
378	110	0.6727	1.5919	109	-0.5688	1.5891
379	107	0.7664	1.2633	109	0.5596	1.4747
380	108	1.4167	1.4412	109	0.3945	1.4531
381	109	0.9174	1.6839	110	-0.7636	1.4772
382	110	-0.4636	1.5485	110	-0.1636	1.5594
383	109	0.0092	1.5723	110	-0.8727	1.4533
384	109	-0.4587	1.6246	110	-0.6636	1.3766
385	110	-0.8273	1.4706	110	-0.5818	1.3298
386	110	1.0364	1.5079	110	0.3727	1.4829
387	109	0.4862	1.5671	109	-0.5046	1.3307
388	110	-1.1364	1.4744	109	-1.0826	1.2702
389	109	-1.0826	1.3549	108	-0.9629	1.2599
390	109	-0.4495	1.3776	109	-0.4220	1.4738
391	109	1.3119	1.4637	109	1.9541	1.4554
392	110	-1.0000	1.6311	109	-1.1284	1.6222
393	110	0.5545	2.3485	108	-1.8704	1.6468
394	110	-0.1909	1.6169	109	0.8532	1.0700
395	110	-0.6727	1.6204	109	-0.5046	1.3377
396	110	-0.6545	1.4427	109	-0.7798	1.3427
397	110	-1.1273	1.5272	109	-0.8073	1.6014
398	110	-0.6818	1.6696	109	0.2936	1.4612
399	110	0.7455	1.4363	108	0.7222	1.5397
400	110	1.0727	1.5427	107	1.4579	1.5002
401	110	1.0091	1.5235	109	0.4954	1.4313
402	109	-0.1193	1.4319	109	0.4037	1.2181
403	110	1.3636	1.4697	109	1.8440	1.2922
404	110	0.3000	1.6620	110	-0.2000	1.5193
405	110	0.7818	1.5046	109	0.5963	1.3479
406	109	1.2385	1.5980	110	-0.2091	1.6204
407	110	1.1818	1.4347	108	1.1111	1.2254
408	109	-0.4954	1.9033	110	-0.1000	1.7291
409	110	0.4364	1.6729	110	-0.0909	1.4623
410	110	1.5364	1.4569	109	0.7889	1.6220
411	110	-0.4818	1.8461	110	-0.9909	1.4869
412	109	0.7064	1.5534	109	0.3945	1.4467
413	109	-1.2294	2.0350	110	-1.2455	1.7671
414	109	-0.7706	1.7085	109	-0.7889	1.4015
415	110	1.4455	1.6567	110	1.1727	1.2551
416	109	-0.2753	1.8149	110	-0.5455	1.6514
417	109	1.1743	1.7419	109	-0.7431	1.7448
418	110	-1.1818	1.8031	110	-1.5091	1.6184
419	110	0.3091	1.7439	110	-0.2000	1.3801

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
420	110	-0.1818	1.5981	110	0.1636	1.5116
421	110	-0.1091	1.3837	110	-0.2636	1.2969
422	109	-0.8165	1.4348	110	-0.9545	1.2069
423	109	0.7248	1.5568	110	1.4182	1.3572
424	110	0.2182	1.4231	109	0.0826	1.3685
425	110	0.3636	1.4318	110	0.6273	1.1240
426	110	1.3909	1.4277	110	-0.2273	1.4568
427	110	-0.6545	1.4363	110	-0.6000	1.2055
428	110	0.7364	1.3180	110	0.9636	1.2034
429	110	0.9091	1.3241	109	1.2661	1.1598
430	108	1.3704	1.5261	110	1.9909	1.2228
431	110	-0.5727	1.6337	110	-0.5727	1.4989
432	109	1.4220	1.5293	110	0.9182	1.4086
433	110	-0.4273	1.5997	110	-0.1455	1.3191
434	110	1.0000	1.5855	110	1.0364	1.3541
435	110	0.6000	1.4789	110	0.9182	1.1896
436	110	0.5455	1.4503	110	-0.1000	1.5202
437	110	0.9727	1.5233	110	-0.0364	1.4202
438	110	0.5364	1.7851	110	-0.7545	1.9309
439	110	0.1636	1.5297	110	-0.5182	1.1392
440	110	0.8364	1.2745	109	1.1284	1.2845
441	110	0.7273	1.3940	110	1.3455	1.1124
442	110	-0.6273	1.3937	110	-0.5091	1.2904
443	110	-1.0818	1.6708	110	-0.5364	1.2969
444	110	-0.4909	1.5309	110	-0.2818	1.2276
445	110	0.9727	1.4236	110	1.2727	1.2915
446	110	0.7818	1.4167	110	1.0182	1.2038
447	110	1.7273	1.3741	110	0.2727	1.4646
448	110	-0.8364	1.6058	109	-0.9174	1.3480
449	109	1.2385	1.2239	109	1.7248	1.0704
450	109	1.2936	1.1809	110	1.7091	1.1989
451	110	0.7909	1.5211	110	1.5091	1.1711
452	110	1.2364	1.4896	110	0.2273	1.7169
453	109	-0.1927	1.6749	109	-0.2018	1.2822
454	110	0.1455	2.0038	110	0.8455	1.5923
455	110	-0.2636	1.4569	110	-0.1273	1.2929
456	110	0.4909	1.7013	110	-0.0818	1.4215
457	110	0.0636	2.0013	110	-0.7455	1.7050
458	110	0.3727	1.9293	110	-0.2364	1.4957
459	110	-1.0909	1.7689	110	-0.8727	1.4845
460	110	0.3727	1.6247	108	0.3611	1.3217
461	110	0.5727	1.7212	110	0.0818	1.2717
462	110	0.9091	1.5944	110	0.4909	1.3528
463	110	0.3727	1.2697	110	0.5818	1.1682
464	110	0.2455	1.4283	110	0.0455	1.1839
465	109	0.1101	1.4741	109	0.3211	1.4134
466	110	0.7545	1.6983	110	0.6364	1.3662

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
467	110	-0.1273	1.3621	109	0.0826	1.2407
468	110	-0.4364	1.5535	110	-0.4909	1.4946
469	110	0.6091	1.5450	110	-0.5818	1.5703
470	110	-0.4818	1.8361	110	-1.6818	1.4834
471	110	0.0182	1.7239	110	-0.8364	1.3581
472	110	0.5727	1.6998	110	0.5455	1.7952
473	110	-0.8455	1.5574	110	-0.8091	1.3168
474	110	0.4273	1.3304	109	0.1101	1.2862
475	110	0.1364	1.5825	110	-0.1364	1.1846
476	110	0.2636	2.3055	110	0.3727	1.7912
477	109	0.1284	2.1391	110	1.1727	1.4454
478	110	0.7000	1.2082	110	0.4727	1.2686
479	110	1.0727	1.3861	110	0.8273	1.2105
480	110	-1.0636	1.3766	110	-0.9818	1.1729
481	108	-0.0833	1.6356	110	-0.1182	1.1943
482	110	1.1273	1.3071	109	0.9083	1.0762
483	110	0.6909	1.7957	109	1.0275	1.6242
484	110	-0.1727	2.0267	110	-0.3545	1.5831
485	110	0.5364	1.5719	110	0.2091	1.4844
486	109	0.6514	1.6066	110	0.2818	1.6149
487	109	-1.2018	1.5973	110	-0.9182	1.3487
488	108	0.3333	1.7401	110	1.0727	1.4944
489	109	-0.2110	1.6503	110	0.5000	1.5189
490	109	-0.0459	1.6909	110	0.7182	1.5571
491	109	0.6972	1.7769	110	-1.0545	1.4579
492	108	-0.7129	1.4211	109	-0.8349	1.6131
493	108	0.9907	1.6031	109	0.6239	1.3797
494	109	-1.0734	1.5378	110	-0.8636	1.3305
495	109	1.4128	1.5105	110	0.8000	1.1871
496	109	0.3578	1.4877	110	0.2364	1.3267
497	109	1.2202	1.4296	110	1.6091	1.1421
498	109	1.5688	1.2425	110	1.3796	1.2991
499	109	-0.6514	1.4868	110	-0.2909	1.4674
500	109	0.2844	1.8663	110	0.8636	1.3578
501	109	1.6422	1.2804	110	0.8455	1.1667
502	110	2.0182	1.1572	110	1.2364	1.1647
503	110	-0.5818	1.6666	110	0.1455	1.0738
504	110	1.2727	1.4583	109	-0.1284	1.4083
505	110	0.9182	1.6206	108	0.4907	1.5193
506	110	0.6545	1.6834	110	0.0455	1.3906
507	109	0.1835	1.8417	110	0.8727	1.6091
508	110	0.6636	1.3899	109	0.8899	1.3426
509	110	-1.3909	1.6815	109	-0.4587	1.3576
510	110	-0.6455	1.7378	110	-1.1455	1.5729
511	109	-0.5413	1.5666	110	-0.0727	1.3321
512	110	-0.2000	1.7703	110	-0.9455	1.4452
513	110	0.5000	1.3461	107	0.6075	1.3014

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
514	110	0.2091	1.7509	110	0.6364	1.5954
515	110	0.7364	1.2756	110	1.0364	1.1881
516	109	0.3394	1.5766	110	-0.3091	1.3730
517	110	-1.8636	1.8448	110	-1.5273	1.4944
518	110	-0.9545	1.5348	110	-0.7364	1.4056
519	110	-0.8818	1.6849	110	-1.2909	1.3704
520	109	1.9725	1.4107	109	1.1009	1.4007
521	110	1.5727	1.6780	110	1.1909	1.3306
522	110	1.1273	1.3821	110	0.5273	1.2972
523	110	0.9818	1.2633	110	0.4364	1.1927
524	110	0.9455	1.3736	110	0.3818	1.3271
525	110	-0.7000	1.3515	109	-0.4771	1.2516
526	109	-1.7248	1.6436	108	-1.5556	1.5122
527	110	0.4364	1.2817	107	1.2617	1.4031
528	110	0.3909	1.1971	109	0.4220	1.1964
529	110	0.9000	1.4204	109	1.0550	1.3799
530	110	-0.8364	1.4933	109	-0.5321	1.3373
531	110	-1.5818	1.7629	109	-0.3303	1.3337
532	110	0.9455	1.5729	110	0.5545	1.2235
533	110	0.6364	1.2468	110	0.3182	1.2557
534	110	1.5182	1.6183	109	0.7889	1.2987
535	110	-0.3909	1.3209	109	-0.4771	1.2809
536	110	0.7545	1.5749	109	-0.9633	1.5026
537	110	1.2182	1.6666	109	0.6055	1.6834
538	110	-0.0000	1.5084	110	0.6636	1.3632
539	110	0.8909	1.5226	108	0.2870	1.2534
540	110	0.5636	1.6285	110	0.4182	1.5644
541	110	-0.2818	1.5333	110	-0.2455	1.3759
542	110	0.3455	1.3643	110	0.1455	1.5435
543	110	-1.2364	1.5321	108	-1.2222	1.3965
544	110	-0.8455	1.4219	109	-0.7523	1.4021
545	110	-0.2182	1.2735	110	-0.0727	1.2094
546	110	0.8273	1.5847	108	1.3426	1.3614
547	110	1.5182	1.4884	109	1.8440	0.9829
548	110	-0.5182	1.5249	109	-0.6330	1.4315
549	110	-1.1455	1.7911	108	-0.6481	1.4229
550	110	0.6364	1.2759	108	1.0833	1.1530
551	110	-0.5727	1.4492	108	-0.1759	1.3998
552	110	0.8727	1.4214	109	1.3669	1.1439
553	110	-1.0273	1.6560	108	-0.9167	1.3680
554	110	0.3545	1.4180	109	1.3119	1.1761
555	110	-1.0545	1.5845	109	-1.0183	1.4465
556	109	0.3028	1.6860	109	0.8349	1.2584
557	110	0.1273	1.5569	108	0.6574	1.3614
558	109	-0.0000	1.5928	109	-0.8349	1.5899
559	110	-1.0091	1.4367	109	-0.8807	1.3244
560	109	-0.6606	1.6057	109	-0.8807	1.6371

Table B4.1 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
561	110	0.9545	1.6994	109	1.6789	1.5449
562	110	0.2545	1.7157	109	1.6239	1.3179
563	110	1.2727	1.3607	109	1.3028	1.1746
564	110	-1.1000	1.5736	109	-0.1835	1.4476
565	110	-0.6909	1.8659	109	-0.6881	1.9085
566	110	0.8364	1.6115	108	1.5370	1.3001

Table B4.2

Table of 566 MMPI Items with Means, Standard Deviations, and Number of Subjects for Female Group- Submissive-Dominance Dimensions, then Hate-Love.

ITEM	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.
001	117	0.6068	1.4737	117	0.5385	1.5002
002	116	1.3534	1.3909	116	1.4483	1.4039
003	117	1.2137	1.3508	117	1.4103	1.5209
004	110	-0.0171	1.5919	117	0.6410	1.5282
005	117	-0.2735	1.6796	117	-0.4957	1.5626
006	117	1.0855	1.3555	117	0.0940	1.7810
007	117	0.3589	1.2762	117	0.6068	1.4200
008	116	1.5948	1.3893	117	1.8291	1.4579
009	116	1.1121	1.5479	117	1.3675	1.4832
010	115	-1.1130	1.4189	117	-1.0598	1.4038
011	116	-0.0517	1.7388	117	0.1453	1.3974
012	117	1.0684	1.4664	117	1.2906	1.3838
013	116	0.1293	1.9628	116	-0.6121	1.8119
014	116	-0.9310	1.5250	116	-1.2500	1.4854
015	117	-0.9402	1.5216	116	-1.3362	1.5263
016	116	-1.3879	2.2019	116	-2.1379	1.5764
017	117	1.1795	1.9011	115	2.2348	1.6077
018	115	-0.0522	1.4621	116	-0.0259	1.7167
019	115	0.8522	1.8649	115	-0.3217	1.6939
020	115	0.9565	1.3662	116	1.2241	1.3899
021	114	0.0175	1.8577	115	-0.6869	1.7540
022	116	-1.0000	1.7888	117	-0.7949	1.6585
023	116	-1.2759	1.5857	117	-1.6667	1.3772
024	116	-1.4828	1.6602	116	-1.5948	1.6204
025	116	0.8276	1.6696	116	1.0689	1.7924
026	115	-0.3652	1.8887	117	0.0513	1.5803
027	116	-1.8879	1.7234	117	-2.0513	1.5803
028	116	1.0172	2.0429	117	-1.5556	1.7243
029	116	-0.9224	1.5444	117	-1.2649	1.4704
030	116	0.5689	1.4991	117	-0.2821	1.5304
031	115	-1.0522	1.4379	117	-1.3333	1.4019
032	115	-0.8348	1.3174	117	-0.8547	1.3913
033	116	-0.5259	1.4109	117	-0.6667	1.6453
034	115	-0.7304	1.3722	117	-0.8803	1.3593
035	115	-1.5913	1.9775	116	-2.0000	1.6098
036	116	0.7155	1.6087	117	0.6410	1.4766
037	115	0.6957	1.5682	117	0.3675	1.6484
038	116	-0.0259	1.7015	117	-0.9316	1.6955
039	116	0.9741	2.0107	117	-1.3077	1.8913
040	116	-0.8966	1.6279	117	0.0513	1.6705
041	117	-1.2393	1.7153	116	-0.9828	1.6887
042	116	-0.3534	1.8893	115	-1.0609	1.4527
043	116	-0.9741	1.5685	116	-1.4138	1.4023

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
044	115	-0.9652	1.5891	113	-1.6903	1.3435
045	117	0.0256	1.5672	116	-1.0776	1.3903
046	116	1.9052	1.3893	115	1.5304	1.4100
047	117	-0.7094	1.3962	116	-1.0172	1.3955
048	117	-1.0940	1.5919	115	-1.2783	1.5134
049	117	0.8291	2.2022	116	-1.2155	1.9328
050	117	-1.0342	1.9429	116	-0.9052	1.8177
051	117	1.4615	1.4053	117	1.2649	1.5335
052	116	-0.8793	1.8843	117	-0.7436	1.4273
053	117	-0.2479	2.1128	117	0.2393	1.9193
054	117	1.5556	1.3611	117	1.9744	1.4291
055	117	0.5470	1.5341	117	0.2137	1.6652
056	117	0.1453	1.9399	117	-1.0000	1.3646
057	116	1.6983	1.4459	116	1.7931	1.3023
058	117	0.0427	1.9316	116	0.3707	1.8346
059	116	-0.3534	2.0820	116	-0.8707	1.7372
060	116	0.2328	1.2742	116	0.0517	1.1256
061	115	-1.2000	1.5850	117	-1.5641	1.5723
062	117	-0.5726	1.5883	114	-0.8333	1.5567
063	117	0.5556	1.5944	115	0.1652	1.6698
064	117	1.0427	1.8495	117	-0.3675	1.4948
065	116	1.2155	2.0968	117	2.6496	1.7729
066	117	-0.4274	1.9357	117	-0.0684	2.0031
067	117	-0.9487	1.9380	117	-0.4274	1.7485
068	117	0.2991	1.3788	117	0.0769	1.3968
069	117	0.2479	2.0423	116	0.2759	2.3759
070	115	-0.2435	1.4424	117	0.2479	1.3189
071	117	0.6496	1.7435	117	-0.8718	1.4771
072	117	-0.8718	1.5786	117	-1.0085	1.5228
073	117	2.4017	1.6508	115	2.0348	1.5779
074	116	1.0689	2.0798	117	1.2222	2.0262
075	117	0.9744	1.4824	116	0.0517	1.5483
076	117	-1.2991	1.5328	117	-1.2051	1.6689
077	117	0.5214	1.7251	117	1.4359	1.4936
078	116	0.7069	1.5826	117	1.6239	1.2228
079	116	1.0776	1.5045	116	0.5948	1.5769
080	116	0.4741	1.8008	116	-1.2414	1.5358
081	117	0.3504	1.4161	117	0.6496	1.5609
082	117	-1.6838	1.6746	117	-0.8974	1.4819
083	117	1.9744	1.4531	116	1.5689	1.5837
084	117	-0.7692	2.1987	117	-0.7436	1.8623
085	117	-0.6325	2.0661	117	-1.5641	1.9091
086	117	-1.7265	1.9810	117	-1.3846	1.5638
087	116	0.2328	1.3664	117	0.7778	1.4628
088	116	1.6379	1.3474	115	1.9217	1.3711
089	117	1.1368	1.5861	116	-0.2241	1.4451
090	117	-0.2137	1.5359	117	0.0256	1.4170

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
091	117	-0.6325	1.7985	117	-0.1709	1.7728
092	115	0.6000	1.5321	116	0.9052	1.6523
093	117	0.7778	1.6194	115	-0.8261	1.8077
094	115	-0.7913	1.8088	117	-1.1282	1.6164
095	115	0.3130	1.7439	117	1.0940	1.4970
096	116	0.0259	1.6912	116	1.0086	1.7118
097	117	0.6154	1.8885	117	-1.1368	1.7951
098	117	0.5385	1.8595	117	1.2479	1.6500
099	116	1.4138	1.6047	117	1.3333	1.6135
100	117	-0.6154	1.7948	117	-0.1026	1.4043
101	117	1.7436	1.6925	116	1.4224	1.7303
102	117	0.1966	1.9924	117	0.1197	1.8484
103	117	0.3077	1.5672	117	0.4529	1.3739
104	116	-1.8534	1.8755	117	-1.8974	1.6473
105	115	0.0783	1.3711	117	-0.5556	1.3799
106	116	-1.5776	1.7602	117	-1.6667	1.5702
107	116	1.6034	1.2913	117	2.2906	1.0833
108	116	-0.6121	1.3754	115	-0.8000	1.2855
109	116	0.9914	1.8812	117	-1.1880	1.6185
110	116	-1.4138	1.9828	117	-2.1966	1.5605
111	114	-0.7982	1.7858	117	0.1538	1.4480
112	116	2.0259	1.5349	117	1.4957	1.5899
113	115	1.4869	1.7389	117	1.5214	1.5346
114	116	-0.8189	1.6397	117	-1.0000	1.6135
115	116	0.5172	1.8391	117	1.4359	1.7039
116	115	0.8522	1.4704	117	0.2906	1.6298
117	115	0.1043	1.7690	116	-0.5000	1.6070
118	116	0.3448	1.8135	117	-0.7778	1.3841
119	116	0.4397	1.4583	117	0.3589	1.1778
120	116	-0.0689	1.3431	117	-0.2906	1.2529
121	117	-1.4786	1.8782	117	-1.9316	1.5905
122	155	1.4435	1.4092	116	1.4569	1.4166
123	116	-1.3793	1.8819	117	-1.4957	1.5791
124	117	0.5983	1.6560	114	-0.9035	1.5963
125	116	-0.6983	1.7556	117	-1.0427	1.6473
126	116	1.3017	1.4278	117	1.2222	1.5431
127	117	0.0513	1.8885	117	-0.6325	1.6432
128	116	0.5000	1.4949	117	0.1453	1.4097
129	115	-0.3391	1.3565	115	-0.6696	1.4187
130	116	0.1897	1.4137	117	-0.1282	1.7347
131	116	0.8376	1.4036	117	0.5214	1.4299
132	116	0.5000	1.5742	117	1.4188	1.3911
133	117	0.2479	1.6708	117	0.1795	1.6379
134	116	0.5345	1.5290	117	0.5128	1.3105
135	115	0.6783	1.6306	117	-0.4786	1.5234
136	116	-0.5517	1.6062	117	-0.7949	1.4887
137	117	1.1197	1.5875	117	1.5812	1.3146

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
138	117	-1.0342	1.8751	117	-1.1282	1.6323
139	117	0.0171	2.2049	117	-1.8632	1.5642
140	117	0.8547	1.3788	117	1.6410	1.1851
141	116	-1.0862	1.9452	116	0.0517	1.3822
142	117	-1.4872	1.5790	117	-1.0684	1.2438
143	116	0.1121	1.9416	117	0.6239	1.6543
144	117	0.5812	2.0688	117	-0.2051	2.0023
145	117	1.1197	1.8716	117	-1.6239	1.5577
146	117	0.6923	1.6053	117	-0.0342	1.6024
147	117	-1.0598	1.3852	117	-0.7607	1.2363
148	117	0.7863	1.6600	117	-0.8632	1.5752
149	117	-0.0342	1.3514	117	0.3162	1.3560
150	115	1.7652	1.5522	117	0.6325	1.6060
151	117	-1.2649	2.1829	117	-2.3589	1.4766
152	117	0.3248	1.4493	117	0.6752	1.4314
153	117	0.7436	1.4453	117	1.1111	1.4901
154	116	0.3448	1.7991	116	0.1293	1.7069
155	116	0.3362	1.2645	116	0.1724	1.2872
156	117	-1.1026	1.5278	116	-1.0517	1.2500
157	117	-0.9658	1.8191	116	-1.3103	1.3411
158	117	-1.1966	1.7283	116	-0.4483	1.5342
159	117	-0.7179	1.1951	116	-0.6121	1.4004
160	115	1.7130	1.5262	116	1.9569	1.6805
161	116	-0.6207	1.2694	116	-0.5431	1.4409
162	117	0.6325	1.8597	115	-1.1391	1.4861
163	117	0.9915	1.4826	116	0.6466	1.4158
164	115	1.4435	1.3841	115	1.6696	1.2335
165	116	0.5259	1.9625	116	0.7672	1.6543
166	117	-0.6154	1.6497	116	-0.7586	1.4241
167	115	0.3217	1.7298	116	-0.8879	1.7081
168	116	-1.2414	2.0243	115	-1.5739	1.6599
169	117	1.2735	1.7202	115	0.6348	1.6240
170	116	1.6293	1.7571	115	0.7130	1.8294
171	117	-0.9402	1.5441	116	-0.6724	1.4433
172	117	-0.6239	1.6013	117	-0.2906	1.3838
173	117	1.1197	1.4453	117	1.6239	1.4782
174	117	0.5214	1.5346	117	0.0684	1.4955
175	117	0.4188	1.4217	116	0.0345	1.4260
176	117	0.7009	1.7134	117	-0.0855	1.7887
177	117	1.3761	1.8229	116	2.5603	1.3141
178	115	0.6609	1.4623	117	1.1538	1.3621
179	117	-0.7265	1.4892	117	-0.8376	1.3955
180	117	-0.9573	1.4936	116	-0.4914	1.4714
181	117	1.1368	1.4616	117	0.6239	1.4125
182	117	-1.3162	1.8413	117	-1.6496	1.6364
183	117	0.9059	1.7810	116	-0.7845	1.7976
184	117	-1.0085	1.8639	115	-1.3130	1.5637

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
185	117	0.6325	1.4774	117	0.9145	1.4055
186	116	-0.8621	1.4074	117	-0.8547	1.1909
187	117	0.3248	1.4071	117	0.4529	1.4233
188	117	0.5299	1.3932	117	0.7179	1.4010
189	117	-1.0855	1.6947	117	-1.2308	1.3607
190	116	0.4655	1.5119	117	0.4274	1.3282
191	117	-1.0940	1.7713	117	-1.2479	1.5419
192	117	0.5641	1.4762	117	0.6239	1.4186
193	116	0.4224	1.4871	117	0.2991	1.5158
194	115	-0.9565	1.8179	116	-1.2155	1.4967
195	117	0.8291	1.5045	116	-0.2241	1.5664
196	117	1.3162	1.6329	117	1.9145	1.3103
197	117	-0.8291	1.8397	116	-1.7414	1.4985
198	114	0.5351	1.3773	116	0.1466	1.2248
199	117	1.3419	1.5766	117	1.1624	1.3706
200	117	-1.0342	2.0424	117	-1.7265	1.5007
201	117	-0.9658	1.8286	116	-0.0776	1.6426
202	116	-1.8017	2.0053	116	-2.2586	1.5832
203	117	0.7094	1.5316	116	1.3276	1.5647
204	117	0.8119	1.4499	117	1.0769	1.5655
205	116	-0.6810	1.9364	117	-1.7009	1.4399
206	116	0.5172	1.9223	117	1.0940	1.6452
207	116	1.5000	1.2955	116	1.7586	1.2828
208	116	0.9052	1.8225	117	1.0855	1.5568
209	116	-1.6121	2.0548	117	-1.9829	1.7859
210	117	-0.7863	1.4009	116	-0.8879	1.3690
211	117	-0.9658	1.3126	116	-1.0259	1.3019
212	117	-1.3419	1.7819	116	-1.4397	1.3338
213	117	-1.2308	1.7829	116	-0.6724	1.5423
214	117	0.1709	1.5827	116	-0.0086	1.4173
215	117	-1.1453	2.1305	116	-1.4310	1.7704
216	114	-0.8859	1.8181	116	-1.6293	1.6234
217	116	-0.7414	1.8841	116	-0.8534	1.4877
218	117	0.2991	2.3826	116	-1.8448	1.8397
219	117	0.5556	1.6528	116	0.5603	1.5111
220	117	1.4957	2.0495	116	2.9828	1.4743
221	117	0.9059	1.4855	116	1.1724	1.3073
222	116	0.9052	1.6042	116	0.3017	1.4816
223	117	1.0513	1.9469	115	0.2522	2.4019
224	116	0.0689	1.9007	116	-0.8017	1.5448
225	117	0.2906	1.2529	116	-0.1379	1.1413
226	117	0.4359	1.6577	115	-1.1130	1.4065
227	117	-0.5470	1.4050	115	-0.4522	1.3653
228	117	1.0769	1.4152	116	0.9914	1.3088
229	117	0.6923	1.5999	116	1.1810	1.3931
230	117	0.3675	1.4359	116	0.3103	1.3604
231	114	1.2368	1.3522	117	0.9487	1.4315

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
232	117	0.2991	1.8858	116	0.6121	1.6669
233	117	1.3761	1.6647	117	-0.0513	1.8234
234	117	0.7607	1.5792	117	-0.5299	1.3298
235	117	1.8376	1.5534	116	0.8534	1.4341
236	116	-0.9655	1.6039	116	-1.1810	1.3095
237	116	-0.6638	1.5148	117	0.0769	1.5819
238	117	-0.1453	1.7383	116	-0.6293	1.3802
239	117	-0.6667	1.7714	117	-0.8889	1.8973
240	116	0.7069	1.9869	116	0.2845	1.7928
241	117	-0.3077	1.5999	115	-0.3130	1.3788
242	117	0.5983	1.3838	117	0.2821	1.3186
243	116	0.4914	1.3481	117	0.6410	1.3291
244	116	-0.1552	1.5968	117	-0.5983	1.3265
245	117	-0.7094	1.7274	117	-1.5214	1.4056
246	117	-0.8119	1.4379	117	-1.0171	1.2931
247	117	-0.3419	1.6875	117	-1.1880	1.5082
248	117	1.2222	1.4391	117	1.1197	1.7179
249	117	0.1282	2.0023	117	-0.3846	1.8423
250	117	1.2991	1.7921	116	-0.4919	1.7569
251	117	-1.0256	1.5226	117	-1.1282	1.5117
252	117	-1.1111	1.8278	117	-1.8889	1.5130
253	117	0.3932	1.4737	117	0.3761	1.5905
254	117	0.4786	1.7743	117	-0.0256	1.8821
255	117	-0.7607	1.5792	117	-0.3761	1.2644
256	116	-0.4655	1.8006	116	-0.5172	1.5906
257	117	2.2649	1.3416	115	1.7913	1.2247
258	117	1.4529	1.9848	117	2.2735	1.5007
259	116	-0.7414	1.5043	116	-0.4310	1.3782
260	117	-0.8803	1.5434	116	-0.6810	1.3931
261	117	0.3333	1.5757	117	1.2222	1.1605
262	117	0.7179	1.5360	117	0.6667	1.3391
263	117	-0.5812	1.3212	117	-0.7692	1.3156
264	117	2.4103	1.7673	117	1.9573	1.6784
265	115	0.3130	2.2725	117	-1.4786	1.6692
266	116	0.5948	1.4684	115	0.6435	1.4461
267	117	-0.8547	1.5158	117	-0.6581	1.2674
268	117	0.7607	1.4893	116	1.1724	1.1889
269	117	1.4188	1.9750	117	-1.1026	1.7089
270	117	0.4188	1.7082	117	-0.0342	1.5862
271	117	0.8974	1.8213	117	-1.0513	1.5528
272	117	1.5299	1.3103	116	1.5172	1.3479
273	115	-0.6696	1.2754	116	-0.9397	1.4820
274	117	0.7778	1.4027	116	0.7759	1.4631
275	116	-1.9569	2.0404	116	-1.7241	1.7174
276	116	1.0517	1.6410	116	2.2931	1.2650
277	117	0.5897	1.6925	116	-0.2586	1.8327
278	117	-1.1282	1.6689	116	-1.1724	1.5451

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
279	115	-0.2435	1.0969	116	-0.1466	1.2871
280	117	0.4872	1.8505	117	-0.6752	1.6126
281	117	-0.0085	1.0946	117	-0.1966	1.2679
282	117	0.1282	1.7147	117	-0.8718	1.7248
283	117	0.9316	1.5070	117	0.9402	1.7335
284	117	-1.1624	1.9296	117	-1.1709	1.6097
285	117	0.1966	1.3911	116	0.3707	1.3547
286	117	-0.0940	1.9163	116	0.1638	1.8079
287	117	0.9744	1.4882	117	0.6496	1.2819
288	117	-1.0085	1.5893	117	-1.3248	1.4904
289	117	1.0513	1.7263	117	-0.7350	2.0316
290	117	0.3162	1.8829	117	-0.6325	1.5844
291	117	-1.8376	1.7516	117	-1.5983	1.4085
292	117	-1.0855	1.6059	117	-0.8034	1.1465
293	117	-1.8547	1.7824	117	-1.6667	1.5029
294	117	0.3932	1.8145	116	0.6897	1.8005
295	117	0.2393	1.4719	117	1.2564	1.2328
296	115	0.8869	1.3686	114	1.4211	1.3163
297	117	-0.9915	1.3927	117	-0.9231	1.3465
298	117	0.1709	1.7335	117	-0.6068	1.5809
299	116	0.8879	1.5977	117	0.8718	1.4175
300	116	0.0948	1.8177	117	-0.6923	1.4940
301	116	-1.1724	1.5675	117	-1.5043	1.4119
302	116	0.3966	1.6306	117	0.5726	1.4283
303	116	-0.5862	1.8181	117	-0.8718	1.2631
304	116	-1.0431	1.7956	117	-0.7607	1.5066
305	116	-1.2931	1.5380	116	-1.3189	1.4117
306	116	-0.0000	1.7295	116	0.2845	1.4253
307	116	-0.1379	1.9151	116	-0.9483	1.2075
308	115	0.3478	1.7221	115	-0.7652	1.5968
309	115	0.8957	1.4165	117	1.0855	1.1932
310	116	0.8448	1.3994	117	1.1709	1.2952
311	116	-0.0517	1.7187	115	-0.8348	1.5039
312	115	-0.7130	1.8485	117	-1.7607	1.4951
313	115	0.7652	1.6561	117	-0.9402	1.6097
314	116	-0.4914	1.6124	117	-1.0427	1.3287
315	116	-1.5086	2.0494	117	-2.0684	1.4782
316	117	0.4615	1.6894	117	-0.7179	1.5360
317	117	-0.1966	1.6148	117	0.2991	1.4986
318	117	1.4786	1.3933	116	1.6379	1.3793
319	116	0.2155	1.5924	117	-1.0940	1.2386
320	116	0.0948	1.5207	117	0.0256	1.2694
321	116	-0.7155	1.5537	115	-0.4000	1.3364
322	116	-0.4138	1.4807	116	-0.8103	1.1261
323	117	-0.6923	1.3095	117	-0.5983	1.3649
324	117	-0.3333	2.0342	116	-1.1724	1.8143
325	117	-0.9658	1.4559	117	-1.1538	1.3171

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
326	117	-1.0684	1.6750	117	-0.9402	1.4401
327	117	-0.7179	1.8234	117	-0.9231	1.5600
328	117	-0.7265	1.3039	117	-0.8376	1.2795
329	117	-0.1111	1.5300	117	-0.6752	1.3054
330	116	0.5172	1.3672	114	0.3684	1.6362
331	116	-1.2586	1.8702	117	-2.1282	1.2285
332	117	-0.8462	1.4240	117	-0.8376	1.2592
333	116	-1.3621	1.7215	117	-1.7265	1.3622
334	117	-0.8119	1.3514	116	-1.0086	1.2683
335	116	-0.5776	1.5217	117	-0.6581	1.3076
336	117	0.5128	1.8176	117	-1.1111	1.2850
337	116	-0.8793	1.7799	117	1.4615	1.5343
338	116	-0.5000	1.8813	116	-1.2414	1.6504
339	117	-1.9573	2.3021	115	-2.8000	1.7279
340	115	0.4261	1.7475	116	0.2500	1.6517
341	116	-0.1552	1.6608	117	-0.6325	1.4598
342	116	-0.5776	1.6532	117	-1.0427	1.2345
343	116	-0.5862	1.6262	117	-0.4872	1.3747
344	116	-1.4483	1.7262	116	-1.2759	1.3357
345	117	-1.2051	1.6428	117	-0.8889	1.4785
346	117	-0.7778	1.3526	117	-0.7179	1.3316
347	116	0.8362	1.4858	117	0.7094	1.6351
348	116	-0.0172	1.4743	116	-0.5862	1.3388
349	116	-0.8534	1.3400	117	-0.9145	1.3492
350	117	-0.9829	1.6347	117	-1.0940	1.4796
351	117	-1.2991	1.6467	117	-1.1624	1.4441
352	116	-1.3276	1.7234	116	-1.1466	1.3784
353	116	1.3362	1.7393	116	0.8535	1.5784
354	115	-1.3739	1.5416	116	-1.1466	1.4818
355	117	0.7265	2.3068	116	-1.8017	1.8141
356	116	-0.8017	1.3592	115	-0.7304	1.2163
357	117	-1.4274	1.6934	115	-1.0087	1.5014
358	116	-0.8966	1.6064	116	-1.4655	1.2679
359	116	-1.0689	1.4787	117	-0.8974	1.2958
360	117	-1.6325	1.7100	117	-1.4529	1.3163
361	117	-0.9145	1.6998	116	-0.6552	1.5215
362	117	-0.6667	1.7419	116	0.2155	1.5425
363	116	-1.2586	2.0350	117	-1.2735	1.9459
364	116	-1.2069	1.8298	117	-1.8718	1.3617
365	116	-0.9310	1.5588	117	-1.1709	1.2885
366	116	-1.1293	1.6179	17	-1.1795	1.3494
367	117	0.8376	1.7712	116	0.1034	1.4884
368	116	-0.8793	1.6896	117	-0.6752	1.4193
369	116	0.9397	1.4643	117	0.9145	1.3492
370	115	0.7478	1.5941	116	-0.1034	1.9488
371	113	0.9204	1.3896	116	0.6207	1.4182
372	116	0.9138	1.4659	117	0.9145	1.2496

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
420	117	-0.3675	1.5403	117	-0.0769	1.5038
421	117	-0.1197	1.4513	117	-0.3675	1.3684
422	116	-0.9397	1.5731	117	-1.1966	1.3212
423	117	0.6410	1.4824	117	1.2137	1.6652
424	117	0.1709	1.6728	117	-0.2991	1.4813
425	116	0.4828	1.4172	116	0.7241	1.2758
426	117	1.4188	1.4278	117	-0.4701	1.4947
427	116	-0.7500	1.5259	117	-0.5641	1.3920
428	117	0.8632	1.4258	117	1.1624	1.3323
429	115	0.8174	1.4116	117	1.2906	1.2322
430	115	1.1652	1.4626	116	2.0000	1.2014
431	117	-0.7094	1.5923	117	-0.6838	1.4121
432	115	1.5826	1.5615	115	0.8869	1.6584
433	115	-0.6783	1.6306	117	-0.1111	1.5908
434	117	0.7265	1.8506	117	0.3932	1.8568
435	116	0.3276	1.2565	117	0.5641	1.1990
436	117	0.7265	1.5292	117	-0.2991	1.4219
437	116	0.6466	1.6003	116	-0.4397	1.5950
438	117	0.8376	1.7663	115	-1.2087	1.6832
439	116	-0.2155	1.7032	115	-0.6087	1.2889
440	117	0.7607	1.3936	115	1.1913	1.1386
441	115	0.6087	1.4849	115	0.8435	1.3152
442	117	-0.7094	1.8055	115	-0.5739	1.4693
443	115	1.4783	1.3659	116	-0.6034	1.3245
444	117	-0.4872	1.6327	116	-0.2414	1.3995
445	117	0.9658	1.2726	115	1.3739	1.1429
446	116	0.6379	1.5001	116	0.4828	1.6862
447	116	1.5776	1.6793	116	-0.1293	1.6709
448	117	-1.2991	1.5215	116	-1.2069	1.4716
449	116	1.4138	1.3388	115	1.8000	1.2009
450	115	1.4348	1.4088	114	1.7632	1.2712
451	116	0.9310	1.6137	116	1.3793	1.4244
452	117	0.8547	1.9532	116	-0.3966	2.0038
453	116	-0.0172	1.7936	116	-0.3793	1.4783
454	117	0.1368	2.2124	117	0.4701	1.9324
455	116	-0.0862	1.6182	117	0.0086	1.3097
456	117	0.7008	1.6467	116	-0.5000	1.5007
457	116	0.2155	2.2217	117	-0.8205	1.6115
458	116	-0.0172	1.8973	117	-0.2821	1.6909
459	116	-0.9828	1.9291	117	-1.0769	1.4980
460	116	0.3879	1.2633	117	0.4872	1.2637
461	115	0.8000	1.6817	117	-0.0256	1.4589
462	115	0.5217	1.5747	117	0.3077	1.4708
463	117	0.5299	1.3932	116	1.0603	1.4221
464	117	0.2222	1.4628	117	-0.0598	1.4872
465	116	-0.2069	1.5181	117	0.2051	1.4053
466	116	0.6897	1.5118	116	0.4052	1.5933

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
467	116	-0.2759	1.3487	117	-0.1709	1.3727
468	117	-0.4615	1.4476	116	-0.2931	1.6419
469	117	0.7778	1.8713	117	-0.8718	1.4236
470	117	-0.4188	2.1141	117	-1.9658	1.4793
471	115	-0.2261	1.7273	116	-1.2155	1.3629
472	116	0.5345	1.7367	117	0.0085	1.7592
473	116	-1.0086	1.7270	117	-0.9059	1.4079
474	117	0.2137	1.3823	117	0.1624	1.2728
475	117	-0.2051	1.7248	116	-0.3966	1.3376
476	117	0.1282	2.2952	117	0.0769	2.0264
477	117	0.0684	2.1882	117	0.4701	1.6794
478	117	0.7692	1.4226	117	0.0940	1.4323
479	117	1.1795	1.4833	117	1.0000	1.2865
480	117	-1.1880	1.7176	117	-0.9059	1.5535
481	117	-0.2308	1.6732	117	-0.3333	1.4856
482	117	1.0256	1.4998	117	0.5897	1.4512
483	117	0.5043	1.8177	116	1.2931	1.7446
484	117	-0.3419	1.8531	117	-0.2821	1.6497
485	117	0.4444	1.6940	117	-0.1624	1.6079
486	117	0.4529	1.4999	117	0.2906	1.5650
487	117	-1.5043	1.5791	117	-1.1026	1.2958
488	116	0.2500	1.7931	117	0.9059	1.5199
489	117	-0.1197	1.5656	117	0.5726	1.5161
490	117	-0.1111	1.7655	117	0.5214	1.7201
491	117	0.8889	1.8606	117	-0.9573	1.4586
492	117	-0.7863	1.8746	116	-0.9138	1.6289
493	117	0.7179	1.6392	117	0.7692	1.3733
494	116	-1.1810	1.5526	117	-1.1880	1.4138
495	117	1.8034	1.2194	117	0.4957	1.4949
496	117	0.4188	1.2747	117	0.0769	1.3718
497	117	1.3418	1.4029	117	1.6752	1.3054
498	116	1.6552	1.3260	117	1.2991	1.3472
499	117	-0.5556	1.7784	115	-0.1478	1.5460
500	116	0.0517	1.8689	117	0.9658	1.3386
501	117	1.6752	1.2514	117	0.9145	1.3492
502	117	2.0598	1.3018	117	1.3077	1.2694
503	117	-0.4957	1.6589	117	0.1624	1.2929
504	117	1.1624	1.7068	117	-0.1368	1.4318
505	117	0.7949	1.6637	117	0.2906	1.6456
506	117	0.5214	1.9100	117	-0.2137	1.5247
507	117	-0.3589	1.7785	116	-1.0948	1.4565
508	117	0.7778	1.3716	117	0.8718	1.2073
509	117	-1.1709	1.7582	117	-0.4188	1.5099
510	116	-1.1638	1.7141	116	-1.3621	1.4530
511	116	-0.7586	1.7773	116	-0.2931	1.4082
512	117	-0.4529	1.9365	117	-1.2906	1.7619
513	116	0.6724	1.2839	117	0.5726	1.1694

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
514	116	0.2672	1.7612	115	0.1478	1.8696
515	117	0.7863	1.4904	117	1.2564	1.4152
516	117	0.2906	1.4801	117	-0.0256	1.5169
517	117	-2.0855	1.6639	117	-1.8889	1.5579
518	117	-1.1197	1.4749	117	-0.9573	1.2892
519	117	-1.4359	1.7089	117	-1.5470	1.4942
520	117	2.0684	1.4723	115	0.7478	1.7057
521	117	1.7179	1.6961	117	1.1111	1.4667
522	117	0.7692	1.6835	117	0.2479	1.7116
523	117	0.9231	1.5321	117	0.3248	1.3823
524	117	0.5043	1.6169	114	0.0614	1.7000
525	117	-0.4786	1.6846	117	-0.5299	1.5623
526	115	-2.0957	1.7670	117	-2.0427	1.6209
527	117	0.5983	1.4207	116	1.5603	1.4343
528	117	0.4444	1.3355	117	0.5385	1.1412
529	117	0.9915	1.5508	117	1.0769	1.4865
530	117	-0.9231	1.5710	117	-0.7607	1.2909
531	117	-1.5897	1.6303	116	-0.5431	1.3981
532	117	0.9487	1.4553	117	0.4359	1.3415
533	117	0.4017	1.4267	117	-0.0427	1.5279
534	117	1.6154	1.6961	117	0.8034	1.5042
535	117	-0.5214	1.4832	117	-0.5556	1.4229
536	116	0.9483	1.6777	117	-0.8889	1.8041
537	117	1.0171	2.1008	117	-0.0085	2.1274
538	117	0.1880	1.5139	117	0.6410	1.6839
539	117	0.9145	1.6219	117	0.0598	1.6468
540	117	0.5043	1.5459	117	0.2479	1.7116
541	117	-0.4188	1.4811	117	-0.2051	1.2699
542	117	0.2222	1.4270	116	-0.1379	1.6413
543	117	-1.6667	1.3709	117	-1.5556	1.4351
544	117	-0.8547	1.4696	116	-0.8707	1.3418
545	117	-0.1880	1.2101	117	-0.1111	1.0968
546	117	0.8462	1.4717	117	1.3333	1.5313
547	117	1.4017	1.4207	117	1.74366	1.2876
548	117	-0.2821	1.5360	114	-0.4649	1.2979
549	116	-1.4397	1.5731	116	-1.1379	1.2504
550	117	0.2821	1.2788	117	0.4615	1.3991
551	116	-0.8534	1.3594	117	-0.4274	1.2479
552	117	0.6752	1.4009	117	1.0342	1.4735
553	117	-1.2479	1.7709	117	-1.0000	1.5920
554	117	0.4786	1.5346	117	1.3932	1.4501
555	116	-1.4397	1.7559	117	-1.2308	1.4703
556	116	0.5431	1.5001	117	0.7863	1.4132
557	116	0.3189	1.5748	116	0.8103	1.5875
558	117	-0.1709	1.7285	117	-0.9829	1.4913
559	117	-1.0855	1.4889	117	-1.0769	1.3465
560	117	-0.6752	1.5965	117	-0.9744	1.4649

Table B4.2 (continued)

ITEM	N	MEAN	STD DEV	N	MEAN	STD DEV
561	117	1.2051	1.4887	117	1.6667	1.6969
562	117	0.6838	1.7253	117	1.7863	1.6600
563	117	0.9915	1.6374	117	1.0256	1.4998
564	117	-1.1538	1.6999	116	-0.3534	1.4280
565	117	-1.0256	2.1232	117	-1.3162	1.6899
566	117	0.7094	1.5259	117	1.7265	1.2221

APPENDIX C

Table C4.1

566 MMPI Items with Angle, Vector Length, Sine and Cosine.

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
001	43.255	1.12504	0.68526	0.72834
002	42.182	2.03618	0.67150	0.74104
003	39.363	1.77205	0.63426	0.77316
004	348.285	0.62918	-0.20281	0.97911
005	216.133	0.49307	-0.58979	-0.80775
006	68.810	1.07724	0.93240	0.36151
007	37.844	0.72522	0.61354	0.78970
008	39.806	2.35686	0.64022	0.76823
009	43.818	1.62404	0.69240	0.72156
010	231.557	1.31081	-0.78333	-0.62188
011	347.188	0.23944	-0.22152	0.97504
012	41.437	1.70409	0.66181	0.74971
013	167.615	0.76330	0.21437	-0.97670
014	214.198	1.39174	-0.56217	-0.82720
015	213.357	1.41007	-0.54998	-0.83536
016	212.639	2.20690	-0.53946	-0.84218
017	30.444	2.45388	0.50671	0.86214
018	81.385	0.20770	0.98873	0.14985
019	91.715	0.74255	0.99955	-0.02985
020	41.689	1.52361	0.66511	0.74679
021	162.565	0.56619	0.29951	-0.95402
022	238.417	1.12712	-0.85197	-0.52390
023	217.807	1.86230	-0.61312	-0.79019
024	220.499	1.88200	-0.64955	-0.76054
025	36.817	1.37073	0.59928	0.80057
026	271.615	0.31262	-0.99960	0.02796
027	221.959	2.35035	-0.66871	-0.74375
028	140.980	1.75775	0.62952	-0.77685
029	216.878	1.33310	-0.60023	-0.80003
030	119.245	0.66727	0.87250	-0.48846
031	215.424	1.43259	-0.57974	-0.81499
032	228.123	1.06249	-0.74469	-0.66767
033	212.213	0.57274	-0.53319	-0.84617
034	220.957	1.04416	-0.65561	-0.75532
035	219.478	2.18804	-0.63590	-0.77199
036	54.225	0.98714	0.81134	0.58464
037	58.467	0.98552	0.85236	0.52303
038	177.686	0.76715	0.04025	-0.99918
039	145.289	1.55410	0.56935	-0.82197
040	289.102	0.78077	-0.94487	0.32702
041	234.178	1.42888	-0.81093	-0.58543
042	193.504	1.04215	-0.23365	-0.97239
043	213.107	1.61112	-0.54633	-0.83775
044	215.031	1.80434	-0.57414	-0.81895
045	175.157	0.83484	0.08431	-0.99642

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
046	49.797	2.21708	0.76379	0.64552
047	217.672	1.09567	-0.61125	-0.79164
048	218.238	1.46555	-0.61905	-0.78556
049	149.642	1.47309	0.50531	-0.86282
050	235.619	1.22236	-0.82539	-0.56486
051	48.412	1.83176	0.74796	0.66380
052	218.161	0.95246	-0.61799	-0.78639
053	323.707	0.34980	-0.59173	0.80585
054	36.532	2.40093	0.59529	0.80354
055	61.557	0.72145	0.87931	0.47633
056	167.754	0.95537	0.21200	-0.97722
057	44.258	2.41563	0.69791	0.71623
058	353.429	0.54133	-0.11419	0.99340
059	197.650	1.02154	-0.30333	-0.95298
060	81.674	0.36670	0.98947	0.14487
061	216.352	1.79954	-0.59286	-0.80550
062	220.000	0.95418	-0.64291	-0.76616
063	67.624	0.82893	0.92473	0.38073
064	104.146	1.23117	0.96966	-0.24431
065	26.221	3.05440	0.44186	0.89710
066	281.634	0.15292	-0.97942	0.20142
067	247.115	0.95155	-0.92135	-0.38907
068	63.726	0.38812	0.89671	0.44271
069	29.530	0.58990	0.49289	0.87011
070	319.119	0.28091	-0.65433	0.75589
071	136.486	1.08127	0.68847	-0.72512
072	218.474	1.26036	-0.62228	-0.78301
073	51.768	2.99479	0.78553	0.61889
074	27.560	0.50686	0.46270	0.88653
075	97.717	0.95556	0.99093	-0.13421
076	225.839	1.70098	-0.71750	-0.69681
077	20.695	1.48338	0.35341	0.93548
078	24.348	1.60985	0.41230	0.91106
079	64.016	1.16660	0.89894	0.43817
080	139.492	1.13403	0.64948	-0.76024
081	30.110	0.88099	0.50168	0.86507
082	242.624	1.73402	-0.88808	-0.46001
083	52.788	2.51687	0.79642	0.60480
084	229.906	0.86184	-0.76509	-0.64419
085	202.865	1.25262	-0.38870	-0.92149
086	231.072	2.01917	-0.77804	-0.62849
087	14.234	0.79534	0.24589	0.96930
088	38.591	2.43369	0.62377	0.78164
089	106.894	1.24857	0.95682	-0.29051
090	268.864	0.22227	-0.99981	-0.02004
091	255.131	0.41203	-0.96656	-0.25681
092	31.218	0.93025	0.51831	0.85522

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
093	131.966	1.02356	0.74348	-0.66861
094	214.520	1.18696	-0.56682	-0.82403
095	17.518	1.12717	0.30102	0.95363
096	11.205	0.98786	0.19433	0.98094
097	148.091	1.14687	0.52848	-0.84883
098	24.143	1.48207	0.40904	0.91253
099	46.071	1.97478	0.72022	0.69380
100	269.219	0.64608	-0.99991	-0.01386
101	47.862	2.00493	0.74156	0.67094
102	64.125	0.38359	0.89977	0.43646
103	49.023	0.57102	0.75500	0.65578
104	224.247	2.29562	-0.69786	-0.71647
105	175.079	0.62176	0.08566	-0.99630
106	217.800	2.07916	-0.61303	-0.79026
107	33.399	2.59173	0.55049	0.83487
108	215.871	0.87595	-0.58608	-0.81044
109	134.998	1.42678	0.70707	-0.70700
110	214.624	2.26841	-0.56831	-0.82300
111	282.800	0.67904	-0.97511	0.22132
112	52.575	2.46826	0.79418	0.60775
113	43.705	2.14841	0.69097	0.72293
114	218.946	1.22320	-0.62871	-0.77785
115	23.206	1.57909	0.39405	0.91910
116	61.584	1.05070	0.87953	0.47592
117	180.581	0.44199	-0.01027	-0.99995
118	146.969	0.77928	0.54500	-0.83831
119	48.731	0.57692	0.75165	0.65962
120	202.166	0.12900	-0.37743	-0.92616
121	217.006	2.21763	-0.60203	-0.79868
122	45.451	1.83546	0.71267	0.70155
123	222.385	1.81309	-0.67422	-0.73876
124	150.790	0.99736	0.48792	-0.87278
125	214.327	1.21623	-0.56403	-0.82594
126	43.691	1.62060	0.69080	0.72309
127	153.065	0.59324	0.45288	-0.89147
128	68.431	0.64708	0.92999	0.36768
129	192.488	0.67827	-0.21637	-0.97638
130	95.172	0.24436	0.99592	-0.09006
131	63.620	0.95179	0.89588	0.44437
132	17.461	1.29768	0.30007	0.95393
133	47.014	0.28429	0.73155	0.68184
134	59.685	0.64583	0.86328	0.50480
135	113.095	0.83105	0.91982	-0.39218
136	205.444	0.83422	-0.42976	-0.90308
137	32.005	1.82861	0.53002	0.84801
138	225.120	1.48586	-0.70870	-0.70575
139	180.448	1.69168	-0.00794	-0.99997

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
140	29.003	1.69745	0.48487	0.87461
141	275.152	1.08403	-0.99594	0.08957
142	230.765	1.64369	-0.77466	-0.63266
143	15.012	1.00785	0.25904	0.96587
144	86.655	0.67957	0.99830	0.05841
145	139.382	1.63080	0.65094	-0.75899
146	99.811	0.59460	0.98536	-0.17032
147	233.248	1.21479	-0.80133	-0.59851
148	135.000	1.25846	0.70704	-0.70703
149	328.127	0.32681	-0.52784	0.84908
150	65.199	2.02694	0.90779	0.41951
151	209.483	2.45440	-0.49229	-0.87059
152	37.117	0.80658	0.60346	0.79742
153	40.671	1.56821	0.65174	0.75848
154	58.042	0.56846	0.84846	0.52934
155	64.496	0.53437	0.90257	0.43062
156	227.314	1.24654	-0.73518	-0.67812
157	210.604	1.57311	-0.50923	-0.86079
158	247.520	1.27294	-0.92408	-0.38255
159	226.184	0.87304	-0.72168	-0.69248
160	41.231	2.36389	0.65912	0.75208
161	224.662	0.77483	-0.70303	-0.71140
162	156.523	1.14403	0.39828	-0.91717
163	58.112	1.39046	0.84911	0.52829
164	39.348	2.13800	0.63405	0.77333
165	35.471	1.11328	0.58031	0.81443
166	224.139	0.97417	-0.69651	-0.71778
167	152.665	0.85174	0.45909	-0.88828
168	219.838	1.85799	-0.64074	-0.76797
169	59.469	1.49852	0.86137	0.50805
170	69.767	1.68353	0.93831	0.34589
171	235.141	1.06835	-0.82066	-0.57171
172	239.534	0.60820	-0.86202	-0.50719
173	33.156	1.83645	0.54695	0.83720
174	75.685	0.65923	0.96896	0.24731
175	69.128	0.50919	0.93439	0.35634
176	87.212	0.81512	0.99882	0.04871
177	28.615	2.76867	0.47894	0.87787
178	33.773	1.39911	0.55593	0.83126
179	225.337	1.05912	-0.71136	-0.70307
180	243.688	0.95832	-0.89647	-0.44344
181	62.347	1.45223	0.88579	0.46417
182	219.927	1.86697	-0.64192	-0.76698
183	130.361	1.27769	0.76192	-0.64752
184	220.592	1.59783	-0.65078	-0.75948
185	37.582	1.13401	0.60992	0.79250
186	228.061	1.21942	-0.74397	-0.66847

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
187	51.573	0.72297	0.78342	0.62155
188	46.987	0.98805	0.73123	0.68219
189	221.606	1.52592	-0.66412	-0.74785
190	45.852	0.73999	0.71756	0.69655
191	220.991	1.55827	-0.65605	-0.75494
192	51.680	1.04439	0.78458	0.62009
193	54.009	0.66718	0.80913	0.58769
194	220.544	1.45633	-0.65015	-0.76002
195	111.037	1.04771	0.93332	-0.35889
196	36.422	2.31030	0.59374	0.80469
197	206.501	1.77500	-0.44634	-0.89500
198	72.097	0.63334	0.95160	0.30746
199	47.293	1.55268	0.73486	0.67827
200	209.813	1.84304	-0.49729	-0.21667
201	257.499	1.00162	-0.97633	-0.21667
202	216.693	2.57700	-0.59765	-0.80196
203	28.811	1.44427	0.48195	0.87622
204	36.245	1.45295	0.59125	0.80652
205	199.667	1.52509	-0.33668	-0.94172
206	24.331	1.31021	0.41203	0.91119
207	38.163	2.30171	0.61792	0.78628
208	42.269	1.69068	0.67263	0.74002
209	214.518	2.27228	-0.56678	-0.82405
210	217.819	0.99584	-0.61329	-0.79006
211	221.894	1.21801	-0.66787	-0.74450
212	220.612	1.81494	-0.65106	-0.75925
213	242.475	1.20215	-0.88689	-0.46231
214	84.572	0.27881	0.99542	0.09571
215	211.674	1.48313	-0.52520	-0.85115
216	207.857	1.63377	-0.46739	-0.88420
217	221.861	1.01449	-0.66744	-0.74489
218	163.003	1.55224	0.29221	-0.95628
219	43.148	1.04168	0.68391	0.72961
220	26.495	3.23783	0.44613	0.89499
221	35.957	1.66557	0.58719	0.80948
222	64.953	0.96582	0.90598	0.42341
223	58.456	1.44217	0.85226	0.52319
224	162.848	0.75351	0.29481	-0.95548
225	113.685	0.33192	0.91574	-0.40161
226	154.427	1.15315	0.43157	-0.90198
227	235.615	0.63523	-0.82535	-0.56491
228	51.120	1.64269	0.77848	0.62773
229	36.704	1.41287	0.59770	0.80175
230	54.642	0.58877	0.81558	0.57871
231	49.167	1.65798	0.75665	0.65388
232	27.417	0.93213	0.46047	0.88769
233	90.915	1.37903	0.99987	-0.01590

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
234	113.839	0.82838	0.91465	-0.40408
235	65.930	1.89615	0.91307	0.40789
236	217.549	1.19402	-0.60955	-0.79295
237	306.213	0.61145	-0.80670	0.59058
238	183.662	0.55423	-0.06400	-0.99797
239	215.248	0.80913	-0.57723	-0.81677
240	71.192	0.89208	0.94662	0.32246
241	238.782	0.34453	-0.85528	-0.51847
242	57.162	0.73927	0.84023	0.54230
243	49.196	0.91008	0.75697	0.65350
244	171.132	0.63144	0.15405	-0.98802
245	199.208	1.44614	-0.32912	-0.94439
246	219.792	1.17532	-0.64012	-0.76849
247	198.955	1.07137	-0.32496	-0.94582
248	42.801	1.70516	0.67948	0.73374
249	163.628	0.28132	0.28176	-0.95941
250	109.359	1.22010	0.94344	-0.33140
251	225.800	1.35187	-0.71702	-0.69730
252	207.968	1.85048	-0.46911	-0.88329
253	31.504	0.64069	0.52258	0.85261
254	71.565	0.72440	0.94870	0.31628
255	241.790	0.75486	-0.88130	-0.47288
256	235.275	0.54374	-0.82199	-0.56979
257	52.124	2.72910	0.78936	0.61399
258	30.818	2.51946	0.51233	0.85881
259	239.931	0.77715	-0.86551	-0.50121
260	228.608	1.04396	-0.75031	-0.66134
261	11.313	1.08271	0.19617	0.98057
262	53.995	0.81683	0.80899	0.58789
263	215.496	0.69800	-0.58076	-0.81426
264	53.155	3.12953	0.80028	0.59969
265	155.753	1.30450	0.41057	-0.91173
266	41.910	0.97345	0.66798	0.74422
267	237.547	1.00155	-0.84392	-0.53678
268	31.463	1.35392	0.52196	0.85299
269	121.049	1.54594	0.85668	-0.51569
270	74.928	0.55906	0.96561	0.26010
271	134.731	1.25190	0.71036	-0.70370
272	46.049	2.13884	0.71996	0.69407
273	219.678	1.03484	-0.63859	-0.76976
274	40.624	1.18928	0.65112	0.75902
275	228.868	2.31750	-0.75330	-0.65794
276	24.672	2.39568	0.41743	0.90872
277	87.510	0.61120	0.99906	0.04351
278	225.881	1.42377	-0.71801	-0.69628
279	225.383	0.05040	-0.71193	-0.70250
280	133.865	0.81372	0.72091	-0.69288

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
281	105.357	0.13366	0.96427	-0.26475
282	157.738	0.81398	0.37874	-0.92541
283	40.781	1.52425	0.65319	0.75723
284	224.113	1.41131	-0.69619	-0.71810
285	31.139	0.60485	0.51713	0.85593
286	322.508	0.34018	-0.60847	0.79328
287	58.017	1.19461	0.84823	0.52971
288	219.414	1.56807	-0.63504	-0.77269
289	132.247	1.29734	0.74019	-0.67225
290	160.129	0.68691	0.33979	-0.94042
291	231.071	2.22243	-0.77803	-0.62850
292	230.464	1.07958	-0.77133	-0.63671
293	229.140	2.11438	-0.75641	-0.65436
294	34.608	0.85319	0.56798	0.82307
295	14.721	1.16148	0.25413	0.96718
296	33.511	1.54203	0.55212	0.83379
297	225.736	1.21184	-0.71625	-0.69809
298	142.001	0.53667	0.61557	-0.78795
299	51.518	1.14687	0.78283	0.62230
300	149.379	0.57846	0.50927	-0.86049
301	221.607	1.66734	-0.66413	-0.74784
302	41.895	0.77871	0.66779	0.74439
303	214.524	0.88615	-0.56687	-0.82399
304	235.988	1.28146	-0.82901	-0.55954
305	227.248	1.61001	-0.73440	-0.67897
306	19.084	0.42139	0.32697	0.94504
307	191.546	0.79936	-0.20029	-0.97980
308	154.100	0.79051	0.43670	-0.89950
309	40.873	1.35759	0.65441	0.75618
310	37.293	1.42942	0.60591	0.79557
311	176.011	0.65046	0.06944	-0.99757
312	199.006	1.65870	-0.32579	-0.94554
313	142.102	1.13886	0.61418	-0.78903
314	201.922	0.86901	-0.37348	-0.92775
315	217.967	2.31898	-0.61533	-0.78847
316	133.718	0.76189	0.722269	-0.69103
317	349.830	0.49899	-0.17633	0.98424
318	41.582	2.13066	0.66371	0.74803
319	176.359	0.97976	0.06339	-0.99797
320	35.111	0.27045	0.57519	0.81805
321	251.139	0.92524	-0.94636	-0.32347
322	207.104	0.63691	-0.45573	-0.89026
323	221.102	0.56959	-0.65752	-0.75366
324	195.700	1.23727	-0.27073	-0.96274
325	220.741	1.17968	-0.65276	-0.75778
326	231.832	1.28883	-0.78630	-0.61812
327	213.854	1.00079	-0.55721	-0.83056

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
328	222.540	0.99689	-0.67622	-0.73693
329	181.414	0.53556	-0.02480	-0.99970
330	55.030	0.76675	0.81948	0.57318
331	212.374	2.18993	-0.53556	-0.84467
332	227.837	0.98656	-0.74134	-0.67138
333	218.009	1.82514	-0.61590	-0.78803
334	219.847	1.09317	-0.64086	-0.76787
335	229.139	0.71377	-0.75641	-0.65436
336	155.255	1.17872	0.41849	-0.90812
337	214.226	1.57336	-0.56259	-0.82692
338	205.213	1.17377	-0.42611	-0.90481
339	216.892	3.18424	-0.60042	-0.79988
340	63.435	0.35777	0.89445	0.44726
341	199.172	0.60631	-0.32853	-0.94459
342	204.775	0.83094	-0.41919	-0.90803
343	235.772	0.64220	-0.82689	-0.56265
344	230.711	1.76086	-0.77406	-0.63339
345	233.646	1.35107	-0.80546	-0.59293
346	225.246	0.72580	-0.71025	-0.70420
347	42.849	1.09959	0.68008	0.73318
348	176.035	0.45197	0.06902	-0.99760
349	217.502	0.89797	-0.60890	-0.79345
350	222.631	1.28136	-0.67739	-0.73585
351	226.983	1.62077	-0.73125	-0.68236
352	233.005	1.61770	-0.79878	-0.60190
353	55.305	1.46920	0.82221	0.56925
354	231.006	1.56811	-0.77731	-0.62939
355	157.629	1.71300	0.38051	-0.92469
356	226.909	0.94333	-0.73038	-0.68329
357	235.057	1.59074	-0.81982	-0.57292
358	213.147	1.55372	-0.54691	-0.83737
359	227.472	1.29691	-0.73705	-0.67609
360	227.938	2.00559	-0.74253	-0.67007
361	235.950	1.15377	-0.82864	-0.56008
362	300.722	0.61494	-0.85955	0.51066
363	234.377	1.43706	-0.81297	-0.58260
364	212.874	1.95646	-0.54291	-0.83996
365	219.303	1.29806	-0.63354	-0.77392
366	224.513	1.45776	-0.70118	-0.71323
367	81.797	0.96138	0.98978	0.14275
368	236.114	0.97975	-0.83024	-0.55771
369	50.863	1.24933	0.77566	0.63121
370	123.935	0.77675	0.82962	-0.55817
371	59.197	0.90727	0.85895	0.51213
372	47.270	1.16860	0.73458	0.67857
373	47.874	1.43146	0.74169	0.67079
374	227.925	0.42920	-0.74237	-0.67024

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
375	221.264	1.28914	-0.65964	-0.75180
376	25.880	0.92051	0.43650	0.89972
377	247.065	0.96092	-0.92102	-0.38987
378	135.749	0.95749	0.69774	-0.71621
379	53.531	0.89377	0.80420	0.59443
380	73.312	1.51003	0.95790	0.28722
381	127.530	1.29445	0.79298	-0.60909
382	254.446	0.67356	-0.96342	-0.26836
383	186.506	1.01535	-0.11343	-0.99358
384	226.019	1.00232	-0.71968	-0.69456
385	229.007	1.06108	-0.75489	-0.65611
386	78.260	0.93098	0.97909	0.20353
387	155.931	0.72692	0.40773	-0.91300
388	229.049	1.58651	-0.75537	-0.65556
389	229.678	1.49732	-0.76253	-0.64723
390	230.650	0.56076	-0.77339	-0.63421
391	34.928	2.26669	0.57256	0.81989
392	220.166	1.52283	-0.64512	-0.76430
393	163.975	2.23413	0.27594	-0.96110
394	333.261	0.90077	-0.44973	0.89294
395	230.551	1.00279	-0.77229	-0.63555
396	219.806	1.38235	-0.64030	-0.76834
397	230.707	1.62797	-0.77402	-0.63344
398	280.231	0.92174	-0.98407	0.17739
399	38.627	0.86860	0.62427	0.78125
400	42.748	2.02735	0.67879	0.73437
401	64.677	1.17941	0.90393	0.42777
402	358.826	0.43372	-0.02025	0.99978
403	37.255	2.36820	0.60539	0.79596
404	136.271	0.51209	0.69118	-0.72254
405	50.239	0.80943	0.76874	0.63962
406	100.347	1.20713	0.98373	-0.17953
407	44.115	1.42381	0.69612	0.71797
408	254.606	0.58084	-0.96417	-0.26566
409	109.180	0.39057	0.94446	-0.32846
410	73.260	1.53621	0.95764	0.28809
411	212.374	1.37180	-0.53556	-0.84467
412	59.373	0.91197	0.86052	0.50949
413	224.825	2.26082	-0.70505	-0.70940
414	224.870	1.37965	-0.70561	-0.70885
415	49.999	2.11768	0.76606	0.64283
416	199.846	0.51746	-0.33963	-0.94066
417	119.032	1.40411	0.87431	-0.48521
418	222.496	2.14840	-0.67565	-0.73745
419	161.224	0.60488	0.32176	-0.94674
420	278.130	0.28035	-0.98992	0.14119
421	199.855	0.33723	-0.33978	-0.94061

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
422	219.192	1.39258	-0.63204	-0.77515
423	27.432	1.47909	0.46072	0.88757
424	120.690	0.22540	0.85990	-0.51031
425	32.106	0.79922	0.53151	0.84708
426	104.078	1.44880	0.96995	-0.24317
427	230.425	0.91275	-0.77090	-0.63723
428	36.946	1.33392	0.60108	0.79922
429	33.990	1.54299	0.55907	0.82915
430	32.362	2.36251	0.53529	0.84470
431	225.595	0.90029	-0.71452	-0.69986
432	59.049	1.75426	0.85763	0.51435
433	257.050	0.57006	-0.97460	-0.22431
434	50.631	1.11119	0.77310	0.63435
435	32.026	0.86775	0.53033	0.84782
436	107.601	0.67014	0.95316	-0.30230
437	106.815	0.84128	0.95722	-0.28919
438	144.970	1.20493	0.57392	-0.81879
439	183.141	0.56529	-0.05492	-0.99851
440	34.487	1.40820	0.56624	0.82427
441	31.477	1.27676	0.52217	0.85286
442	231.001	0.86161	-0.77725	-0.62946
443	246.040	1.40556	-0.91390	-0.40628
444	241.903	0.55431	-0.88223	-0.47114
445	36.195	1.64117	0.59055	0.80703
446	43.603	1.02655	0.68968	0.72416
447	87.697	1.65178	0.99919	0.04025
448	225.220	1.51432	-0.70993	-0.70452
449	37.002	2.20805	0.60186	0.79864
450	38.190	2.20951	0.61829	0.78599
451	30.886	1.68084	0.51335	0.85820
452	95.107	1.04379	0.99602	-0.08894
453	199.213	0.31063	-0.32921	-0.94436
454	12.200	0.66705	0.21134	0.97742
455	251.641	0.18182	-0.94916	-0.31517
456	116.327	0.66846	0.89624	-0.44341
457	169.764	0.79682	0.17758	-0.98406
458	146.418	0.31198	0.55304	-0.83303
459	226.634	1.42425	-0.72709	-0.68680
460	41.729	0.57171	0.66563	0.74633
461	87.803	0.68940	0.99927	0.03841
462	60.858	0.81417	0.87344	0.48701
463	28.739	0.94368	0.48084	0.87683
464	92.161	0.23365	0.99929	-0.03763
465	348.454	0.26645	-0.19992	0.97971
466	54.330	0.88781	0.81241	0.58316
467	256.551	0.20928	-0.97262	-0.23278
468	229.089	0.59458	-0.75583	-0.65503

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
469	136.414	1.00957	0.68937	-0.72427
470	193.809	1.88260	-0.23881	-0.97114
471	185.907	1.03648	-0.10304	-0.99471
472	64.087	0.61492	0.89948	0.43705
473	227.247	1.26545	-0.73440	-0.67897
474	66.613	0.34557	0.91787	0.39698
475	188.356	0.27281	-0.14546	-0.98941
476	41.348	0.29341	0.66065	0.75074
477	6.848	0.81640	0.11924	0.99287
478	69.331	0.78629	0.93565	0.35302
479	50.906	1.45308	0.77614	0.63063
480	230.107	1.46989	-0.76734	-0.64151
481	214.933	0.27942	-0.57274	-0.81993
482	55.333	1.30690	0.82250	0.56884
483	27.055	1.30752	0.45486	0.89058
484	219.333	0.41007	-0.63394	-0.77359
485	87.936	0.48930	0.99935	0.03608
486	62.441	0.61890	0.88655	0.46271
487	233.281	1.69466	-0.80168	-0.59804
488	16.387	1.02857	0.28213	0.95938
489	343.058	0.56183	-0.29117	0.95652
490	352.642	0.62186	-0.12783	0.99173
491	141.587	1.28187	0.62125	-0.78348
492	220.625	1.15359	-0.65123	-0.75910
493	50.526	1.09972	0.77194	0.63576
494	227.599	1.52873	-0.73856	-0.67445
495	68.286	1.73840	0.92906	0.37003
496	68.398	0.41880	0.92978	0.36821
497	37.987	2.08485	0.61550	0.78817
498	50.490	2.09112	0.77154	0.63624
499	250.105	0.63996	-0.94038	-0.34049
500	10.174	0.93094	0.17665	0.98428
501	62.032	1.87870	0.88323	0.46907
502	58.028	2.40437	0.84833	0.52955
503	286.007	0.55912	-0.96117	0.27553
504	96.231	1.22308	0.99409	-0.10845
505	65.656	0.93803	0.91111	0.41226
506	98.552	0.59249	0.98888	-0.14862
507	195.537	1.02415	-0.26800	-0.96350
508	39.369	1.13899	0.63433	0.77310
509	251.074	1.35055	-0.94599	-0.32455
510	215.955	1.55241	-0.58728	-0.80958
511	254.122	0.67925	-0.96189	-0.27380
512	196.390	1.17093	-0.28230	-0.95941
513	44.962	0.83282	0.70665	0.70761
514	31.714	0.45454	0.52569	0.85070
515	33.538	1.37942	0.55251	0.83354

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
516	117.422	0.35393	0.88760	-0.46045
517	229.095	2.61706	-0.75590	-0.65495
518	230.724	1.34303	-0.77421	-0.63321
519	219.367	1.84051	-0.63440	-0.77322
520	65.544	2.22142	0.91030	0.41404
521	55.090	2.00911	0.82008	0.57232
522	67.876	1.01766	0.92639	0.37666
523	68.290	1.02419	0.92909	0.36996
524	73.057	0.75064	0.95661	0.29147
525	229.274	0.77313	-0.75794	-0.65259
526	226.635	2.63439	-0.72710	-0.68678
527	20.145	1.50938	0.34441	0.93883
528	40.949	0.63856	0.65541	0.75532
529	41.611	1.42626	0.66409	0.74769
530	233.563	1.09514	-0.80461	-0.59409
531	254.494	1.64581	-0.96365	-0.26755
532	62.484	1.06794	0.88690	0.46205
533	75.619	0.53209	0.96868	0.24844
534	63.076	1.75894	0.89163	0.45285
535	221.508	0.69131	-0.66284	-0.74899
536	137.279	1.25877	0.67836	-0.73459
537	75.530	1.15105	0.96829	0.24993
538	8.455	0.65915	0.14704	0.98913
539	79.407	0.91874	0.98297	0.18389
540	58.208	0.62713	0.84999	0.52688
541	237.483	0.41795	-0.84332	-0.53772
542	90.000	0.28194	1.00000	0.00000
543	226.257	2.01836	-0.72255	-0.69157
544	226.270	1.17660	-0.72272	-0.69139
545	245.462	0.22276	-0.90976	-0.41548
546	32.033	1.57804	0.53042	0.84776
547	39.135	2.31032	0.63117	0.77568
548	215.931	0.67564	-0.58693	-0.80983
549	235.178	1.57925	-0.82103	-0.57118
550	30.839	0.88515	0.51264	0.85863
551	246.838	0.77966	-0.91946	-0.39352
552	32.834	1.42183	0.54222	0.84026
553	229.923	1.49111	-0.76528	-0.64396
554	17.176	1.41718	0.29532	0.95541
555	227.979	1.68557	-0.74301	-0.66954
556	27.786	0.91527	0.46618	0.88471
557	17.033	0.77040	0.29293	0.95614
558	185.545	0.91579	-0.09676	-0.99533
559	226.866	1.43673	-0.72986	-0.68385
560	215.718	1.14448	-0.58392	-0.81201
561	32.940	1.99296	0.54378	0.83925
562	15.566	1.77299	0.26835	0.96333

Table C4.1 (continued)

ITEM	ANGLE	VECTOR LENGTH	SINE	COSINE
563	44.210	1.61734	0.69731	0.71682
564	256.483	1.15988	-0.97234	-0.23395
565	220.435	1.33126	-0.64870	-0.76126
566	25.327	1.80814	0.42368	0.90456

APPENDIX D

Table D4.1

566 MMPI Items in Angular Order with
Scale/Scoring Direction and Statement

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
477	6.8481	Pm/+;	If I were in trouble with several friends who were equally to blame, I would take the whole blame than to give them away.
538	8.455		I think I would like the work of a dressmaker.
500	10.1743		I readily become one hundred per-cent sold on a good idea.
96	11.2052	K/+ ;Pd/-	I have very few quarrels with members of my family.
261	11.3128	Mf-m&f/+;Es/-	If I were an artist I would like to draw flowers.
454	12.2005		I could be happy living all alone in a cabin in the woods or mountains.
87	14.2336	Mf-m&f/+	I would like to be a florist.
295	14.7214	Mf-m&f/+;	I liked "Alice in Wonderland" by Lewis Carroll.
143	15.0124	Ma/+; Si/-	When I was a child, I belonged to a crowd or gang that tried to stick together through thick and thin.
562	15.5657		The one to whom I was most attached and whom I most admired as a child was a woman. (Mother, sister, aunt or other woman.)
488	16.3868	Es/-;	I pray several times every week.
557	17.0327		I would like to be a private secretary.
554	17.1759	Es/-	If I were an artist I would like to draw children.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
132	17.4611	Mf-m&f/+ ;Es/-	I like collecting flowers or growing house plants.
95	17.5181	D/- ;Es/+	I go to church almost every week.
306	19.0844	Sc/-	I get all the sympathy I should.
527	20.1449		The members of my family and my close relatives get along quite well.
77	20.6955	Mf-m&f/+	I enjoy reading love stories.
115	23.2061	F/- ;Mf-m&f/-	I believe in a life hereafter.
98	24.1433	D/-	I believe in the second coming of Christ.
206	24.3314	F/+ ;	I am very religious (more than most people).
78	24.3484	Mf-m&f/+ ;	I like poetry.
276	24.6717	F/-;Sc/-	I enjoy children.
566	25.2370		I like movie love scenes.
376	25.8797		Policeman are usually honest.
65	26.2213	F/-;Sc/-	I loved my father.
220	26.4947	F/-;Sc/-	I loved my mother.
483	27.0547	Es/-;	Christ performed miracles such as changing water into wine.
232	27.4165		I have been inspired to a program of life based on duty which I have since carefully followed.
423	27.4323		I like or have liked fishing very much.
74	27.5604	Mf-m&f/+	I have often wished I were a girl. (Or if you are a girl) I have never been sorry that I am a girl.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
556	27.7857	R/-	I am very careful about my manner of dress.
177	28.6153	F/-;Sc/-	My mother was a good woman.
463	28.7393		I used to like hopscotch.
203	28.8114	Mf-m&f/+	If I were a reporter I would very much like to report news of the theater.
140	29.0027	Mf-m&f/+;Es/-;R/-	I like to cook.
69	29.5298	Mf-m/+ ;f/-	I am very strongly attracted by members of my own sex.
81	30.1102	Mf-m&f/-R/-	I think I would like the kind of work a forest ranger does.
17	30.4438	F/-;Sc/-	My father was a good man.
258	30.8179	F/-;	I believe there is a God.
550	30.8386	F/-	I like repairing a door latch.
451	30.8862	Si/-;R/-	My worries seem to disappear when I get into a crowd of lively friends.
285	31.1389	L/-;D/-	Once in a whole I laugh at a dirty joke.
92	31.2178	Mf-m&f/+	I would like to be a nurse.
268	31.4626	Pa/-;,a/+	Something exciting will almost always pull me out of it when I am feeling low.
441	31.4769		I like tall women.
253	31.5043	Es/+; Dn/+	I can be friendly with people who do things which I consider wrong.
514	31.7137		I like mannish women.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
137	32.0054	Pd/-;	I believe that my home life is as pleasant as that of most people I know.
435	32.0264		Usually I would prefer to work with women.
546	32.0329		I like to read about history.
425	32.1063		I dream frequently.
430	32.3620	Es/+;	I am attracted by members of the opposite sex.
552	32.8339		I like to read about science.
561	32.9403	Es/-;	I very much like horseback riding.
173	33.1564	Pd/-;	I liked school.
107	33.3992	D/-;Hy/-;Pd/-; Pa/-	I am happy most of the time.
296	33.5110	K/-;D/-;Pd/-; Si/-	I have periods in which I feel unusually cheerful without any special reason.
515	33.5378	Es/+	In my home we have always had the ordinary necessities (such as enough food, clothing, etc.).
178	33.7735	D/-;Pt/-;Sc/-	My memory seems to be all right.
429	33.9904	R/-	I like to attend lectures on serious subjects.
440	34.4873	Si/-;R/-	I try to remember good stories to pass them on to other people.
294	34.6084	Pd/-;Pa/-;	I have never been in trouble with the law.
391	34.9277	Si/-;	I love to go to dances.
320	35.1115	Sc/+;	Many of my dreams are about sex matters.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
165	35.4706	L/- ;	I like to know some important people because it makes me feel important.
221	35.9566	Mf-m&f/-; Es/+;	I like science.
445	36.1948	R/-	I was fond of excitement when I was young (or in childhood).
204	36.2445	Mf-m&f/+;	I would like to be a journalist.
196	36.4217	F/-;Sc/-	I like to visit places where I have never been before.
54	36.5320	F/-;So/+	I am liked by most people who know me.
229	36.7040	Mf-m&f/-;Si/-	I should like to belong to several clubs or lodges.
25	36.8171	Mf-m&f/+;Si/-	I would like to be a singer.
428	36.9456		I like to read newspaper editorials.
449	37.0016	Si/-; R/-	I enjoy social gatherings just to be with people.
152	37.1169	D/-; Pt/-	Most nights I go to sleep without thoughts or ideas bothering me.
403	37.2253		It is great to be living in these times when so much is going on.
310	37.2930		My sex life is satisfactory.
185	37.5822	F/-	My hearing is apparently as good as that of most people.
7	37.8445	Hs/-; Hy/-; So/+	My hands and feet are usually warm enough.
497	37.9870		I enjoy stories of adventure.
207	38.1629	D/-;	I enjoy many different kinds of play and recreation.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
450	38.1898	Si/-;R/-	I enjoy the excitement of a crowd.
88	38.5907	D/-;	I usually feel that life is worth-while.
399	38.6271		I am not easily angered.
547	39.1347	Si/-;	I like parties and socials.
164	39.3481	F/-; Pt/-	I like to study and read about things that I am working at.
3	39.3632	Hs/-; Hy/-; Pt/-;	I wake up fresh and rested most mornings.
508	39.3686		I believe my sense of smell is as good as other people's.
8	39.8063	D/-; Hy/-; Pd/-; Pt/-; Sc/-	My daily life is full of things that keep me interested.
274	40.6244	Hs/-; Hy/-	My eyesight is as good as it has been for years.
153	40.6711	Hs/-; D/-; Hy/-; Es/+	During the past few years I have been well most of time.
283	40.7809	Mf-m&f/-	If I were a reporter I would very much like to report sporting news.
309	40.8735	Sc/-; Si/-	I seem to make friends about as quickly as others do.
528	40.9488	So/+	I blush no more often than others.
160	41.2312	K/-; D/-; Hy/-	I have never felt better in my life than I do now.
476	41.3478		I am a special agent of God.
12	41.4367	Hy/-; R/-; Dn/-	I enjoy detective or mystery stories.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
318	41.5819		My daily life is full of things that keep me interested.
529	41.6111	R/-	I would like to wear expensive clothes.
20	41.6891	F/-; Pd/-; Sc/-	My sex life is satisfactory.
460	41.7288		I have used alcohol moderately (or not at all).
302	41.8953		I have never been in trouble because of my sex behavior.
266	41.9095	Pt/+; Sc/+;	Once a week or oftener I become very excited.
2	41.9095	Hs/-; D/-; Hy/-; Es/+	I have a good appetite.
208	42.2688	D/-; Si/-; Es/+; R/-	I like to flirt.
400	42.7476	Si/-	If given the chance I could do some things that would be of great benefit to the world.
248	42.8014	D/-; Pd/-;	Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world."
347	42.8485	Pa/-	I have no enemies who really wish to harm me.
219	43.1480	Mf-m&f/-; R/-	I think I would like the work of a building contractor.
1	43.2547	Mf-m&f/-; R/-	I like mechanics magazines.
446	43.6028	Si/-	I enjoy gambling for small stakes.
126	43.6915	Mf-m&f/+; Si/-	I like dramatics.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
113	43.7053	F/-	I believe in law enforcement.
9	43.8184	Hs/-; D/-; Hy/-; R/-	I am about as able to work as I ever was.
407	44.1147		I am usually calm and not easily upset.
563	44.2099		I like adventure stories better than romantic stories.
57	44.2579	D/-; Si/-	I am a good mixer.
513	44.9616	Es/+	I think Lincoln was greater than Washington.
122	45.4509	D/-; Pt/-	I seem to be about as capable and smart as most others around me.
190	45.8517	Hs/-; Hy/-	I have very few headaches.
272	46.0491	F/-; K/-; D/-; R/-	At times I am all full of energy.
99	46.0706	Mf-m&f/+; Si/-	I like to go to parties and other affairs where there is lots of loud fun.
188	46.9874	Hs/-; Hy/-	I can read a long while without tiring my eyes.
133	47.0144	Mf-m/-; -f/+	I have never indulged in any unusual sex practices.
372	47.2699		I tend to be interested in several different hobbies rather than to stick to one of them for a long time.
199	47.2935	F/-	Children should be taught all the main facts of sex.
101	47.8624	Ma/-	I believe women ought to have as much sexual freedom as men.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
373	47.8739		I feel sure that there is only one true religion.
51	48.4123	Hs/-; D/-; Hy/-; Es/+; R/-	I am in just as good physical health as most of my friends.
119	48.7314	Sc/-; Ma/-; Si/-	My speech is the same as always (not faster or slower, or slurring; no hoarseness).
103	49.0235	Hs/-; Hy/-; Sc/-	I have little or no trouble with my muscles twitching or jumping.
231	49.1674	Pd/-; Mf-m/+; f/-; Si/-; Es/+	I like to talk about sex.
243	49.1962	Hs/-; Hy/-	I have few or no pains.
46	49.7974	D/-	My judgment is better than it ever was.
415	49.9994	Si/-; R/-	If given the chance I would make a good leader of people.
405	50.2390		I have no trouble swallowing.
498	50.4901		It is always a good thing to be frank.
493	50.5263		I prefer work which requires close attention, to work which allows me to be careless.
434	50.6307		I would like to be an auto racer.
369	50.8630		Religion gives me no worry.
479	50.9062	Si/-	I do not mind meeting strangers.
228	51.1195	Ma/+	At times I feel that I can make up my mind with unusually great ease.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
299	51.5183	Mf-m&f/+; Pa/+	I think that I feel more intensely than most people do.
187	51.5728	Mf-mf/+; Sc/-; Es/+	My hands have not become clumsy or awkward.
192	51.6799	Hs/-; Hy/-; Sc/-; Es/+	I have had no difficulty in keeping my balance in walking.
73	52.7676	Ma/+	I am an important person.
257	52.1237	F/-; So/+	I usually expect to succeed in things I do.
112	52.5755	F/-; Mf-m&f/-; R/-	I frequently find it necessary to stand up for what I think is right.
83	52.7879	F/-	Any man who is able and willing to work hard has a good chance of succeeding.
264	53.1545	Mf-m&f/-	I am entirely self-confident.
379	53.5308	A/-	I very seldom have spells of the blues.
262	53.9954	Mf-m&f/-; Si/-	It does not bother me that I am not better looking.
193	54.0093	D/+; Si/-	I do not have spells of hay fever or asthma.
36	54.2247	D/-; Pt/-; Es/+	I seldom worry about my health.
466	54.3296		Except by a doctor's orders I never take drugs or sleeping powders.
230	54.6425	Hs/-; Hy/-	I hardly ever notice my heart pounding and I am seldom short of breath.
330	55.0301	Sc/-	I have never been paralyzed or had any unusual weakness of any of my muscles.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
521	55.0903	Si/-	In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.
353	55.3049	Pt/+; Si/-	I have no dread of going into a room by myself where other people have already gathered and are talking.
482	55.3334	Si/-	While in trains, busses, etc., I often talk to strangers.
242	57.1622	D/-	I believe I am no more nervous than most others.
287	58.0171	Pd/-	I have very few fears compared to my friends.
502	58.0280	K/-; R/-	I like to let people know where I stand on things.
154	58.0419	D/-; R/-	I have never had a fit or convulsion.
163	58.1125	Hs/-; Hy/-; So/+	I do not tire quickly.
540	58.2079		My face has never been paralyzed.
223	58.4565	Mf-m&f/-	I very much like hunting.
37	58.4670	Pd/-; Sc/-	I have never been in trouble because of my sex behavior.
432	59.0490		I have strong political opinions.
371	59.3730		I do not dread seeing a doctor about a sickness or injury.
169	59.4687	F/-; So/+	I am not afraid to handle money.
134	59.6846	K/-; Pd/-; Mf-m&f/+; Ma/+	At times my thoughts have raced ahead faster than I could speak them.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
462	60.8584	Si/-; R/-	I have had no difficulty starting or holding my urine.
55	61.5571	Hs/-; Hy/-	I am almost never bothered by pains over the heart or in my chest.
116	61.5839	Mf-m&f/-	I enjoy a race or game better when I bet on it.
501	62.0324		I usually work things out for myself rather than get someone to show me how.
181	62.3467	Ma/+; Es/+	When I get bored I like to stir up some excitement.
486	62.4407		I have never noticed any blood in my urine.
532	62.4837		I can stand as much pain as others can.
534	63.0760		Several times I have been the last to give up trying to do a thing.
340	63.4350	Pt/+	Sometimes I become so excited that I find it hard to get to sleep.
131	63.6197	D/-; R/-	I do not worry about catching diseases.
68	63.7258	Hs/-	I hardly ever feel pain in the back of the neck.
79	64.0159	Mf-m&f/-	My feelings are not easily hurt.
472	64.0872	R/-	I am fascinated by fire.
102	64.1251	Pd/+; Pt/+	My hardest battles are with myself.
155	64.4959	Hs/-; D/-; Pd/-	I am neither gaining nor losing weight.
401	64.6767		I have no fear of water.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
222	64.9533	Ma/+	It is not hard for me to ask help from my friends even though I cannot return the favor.
150	65.1995	L/-	I would rather win than lose in a game.
520	65.5444		I strongly defend my own opinions as a rule.
505	65.6561	Si/-	I have had periods when I felt so full of pep that sleep did not seem necessary for days at a time.
235	65.9305	Pd/-	I have been quite independent and free from family rule.
474	66.6134		I have to urinate no more often than others.
63	67.6244	Hs/-	I have had no difficulty in starting or holding my bowel movement.
522	67.8762		I have no fear of spiders.
495	68.2857		I usually "lay my cards on the table" with people that I am trying to correct or improve.
523	68.2901		I practically never blush.
496	68.3977		I have never seen things doubled (that is, an object never looks like two objects to me without my being able to make it look like one object).
128	68.4307	Hy/-	The sight of blood neither frightens me nor makes me sick.
6	68.8101	Hy/-; R/-; Dn/-	I like to read newspaper articles on crime.
175	69.1277	Hs/-; Hy/-	I seldom or never have dizzy spells.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
478	69.3313		I have never been made especially nervous over trouble that any members of my family have gotten into.
170	69.7673	K/-; Hy/-; Pd/-; Dn/-	What others think of me does not bother me.
240	71.1916	Ma/+	I never worry about my looks.
254	71.5651	Mf-m&f/-; Si/-	I like to be with a crowd who play jokes on one another.
198	72.0974	Mf-m&f/-;	I daydream very little.
524	73.0572		I am not afraid of picking up a disease or germs from door knobs.
410	73.2599	Es/+	I would certainly enjoy beating a crook at his own game.
380	73.3117	Es/+	When someone says silly or ignorant things about something I know about, I try to set him right.
270	74.9278	D/-; Es/+	When I leave home I do not worry about whether the door is locked and the windows closed.
537	75.5303		I would like to hunt lions in Africa.
533	75.6186		I am not bothered by a great deal of belching of gas from my stomach.
174	75.6852	Hy/-; Es/+	I have never had a fainting spell.
386	78.2600		I like to keep people guessing what I'm going to do next.
599	79.4073		I am not afraid of mice.
18	81.3854	Hs/-; D/-; So/+	I am very seldom troubled by constipation.
60	81.6744	L/-	I do not read every editorial in the newspaper every day.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
367	81.7971	Es/+	I am not afraid of fire.
214	84.5116	Mf-m&f/-	I have never had any breaking out on my skin that has worried me.
144	86.6554	Mf-m&f/-	I would like to be a soldier.
176	87.212	Mf-M7F/-; Pr/-	I do not have a great fear of snakes.
277	87.510	Ma/+	At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it.
447	87.697		I am often inclined to go out of my way to win a point with someone who has opposed me.
461	87.803	K/-	I find it hard to set aside a task that I have undertaken even for a short time.
485	87.936		When a man is with a woman he is usually thinking about things related to her sex.
542	90.000		I have never had any black, tarry-looking bowel movements.
233	90.915	D/-; Ma/+	I have at times stood in the way of people who were trying to do something, not because it amounted to much but because of the principle of the thing.
19	91.715	Mf-m&f/-	When I take a new job, I like to be tipped off on who should be gotten next to.
464	92.161		I have never seen a vision.
452	95.107		I like to poke fun at people.
130	95.172	Hs/-; D/+	I have never vomited blood or coughed up blood.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
504	96.231		I do not try to cover up my poor opinion or pity of a person so that he won't know how I feel.
75	97.717	L/-; F/-	I get angry sometimes.
506	98.552		I am a high-strung person.
146	99.811	F/+	I have the wanderlust and am never happy unless I am roaming or traveling about.
406	100.347	K/-; R/-	I have often met people who were supposed to be experts who were no better than I.
426	104.078		I have at times had to be rough with people who were rude or annoying.
64	104.146	D/-; Ma/+	I sometimes keep on at a thing until others lose their patience with me.
281	105.357	Hs/-; Pa/-; Sc/-; Si/-; R/-	I do not often notice my ears ringing or buzzing.
437	106.815		It is all right to get around the law if you don't actually break it.
89	106.894	K/-; D/-; Hy/-; Mf-m&f.-; Dn/-	It takes a lot of argument to convince most people of the truth.
436	107.601	Si/+	People generally demand more respect for their own rights than they are willing to allow for others.
409	109.180		At times I have worn myself out by undertaking too much.
250	109.359	Ma/+	I don't blame anyone for trying to grab everything he can get in this world.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
195	111.037	L/-	I do not like everyone I know.
135	113.095	L/-	If I could get into a movie without paying and be sure I was not seen I would probably do it.
225	113.685	L/-	I gossip a little at times.
234	113.839	K/-; Hy/-; Es/+; Dn/-	I get mad easily and then get over it soon.
456	116.327		A person shouldn't be punished for breaking a law that he thinks is unreasonable.
516	117.422	R/-	Some of my family have quick tempers.
417	119.032		I am often so annoyed when someone tries to get ahead of me in a line of people that I speak to him about it.
30	119.245	L/-; K/-; D/-; Hy/-; Dn/-	At times I feel like swearing.
424	120.690	So/-	I feel hungry almost all the time.
269	121.049	F/+; So/-	I can easily make other people afraid of me, and sometimes do for the fun of it.
370	123.935		I hate to have to rush when working.
381	127.530		I am often said to be hotheaded.
183	130.361	K/-; Pd/-	I am against giving money to beggars.
93	131.966	Hy/-; Pa/-; Dn/-	I think most people would lie to get ahead.
289	132.247	Hy/-; Pd/-; Ma/-; Dn/-	I am always disgusted with the law when a criminal is freed thru the arguments of a smart lawyer.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
316	133.718	K/-; Pa/-; Si/+	I think nearly anyone would tell a lie to keep out of trouble.
280	133.865	Mf-m&f;	Most people make friends because friends are likely to be useful to them.
271	134.731	D/-; Ma/+; R/-	I do not blame a person for taking advantage of someone who lays himself open to it.
109	134.998	Hy/-; Pa/-; Ma/+; Es/+; Dn/-	Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.
148	135.000	K/-; Ma/-; So/-	It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.
378	135.749	Es/-	I do not like to see women smoke.
404	136.271		People have often misunderstood my intentions when I was trying to put them right and be helpful.
469	136.414	Si/-	I have often found people jealous of my good ideas, just because they had not thought of them first.
71	136.486	K/-; Hy/-; Dn/-	I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others.
536	137.279		It makes me angry to have people hurry me.
145	139.382	D/-; R/-	At times I feel like picking a fist fight with someone.
80	139.492	D/-; Mf-m&f/-	I sometimes tease animals.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
28	140.980	Mf-m&f/-	When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.
491	141.587		I have no patience with people who believe there is only one true religion.
298	142.001	Ma/+	If several people find themselves in trouble, the best thing for them to do is agree upon a story and stick to it.
313	142.102	Pa/-	The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it.
438	144.970		There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.
339	145.289	K/-; D/-; R/-	At times I feel like smashing things.
458	146.418	Es/+	The man who had most to do with me when I was a child (such as my father, stepfather, etc.) was very strict with me.
118	146.969	Pd/+	In school I was sometimes sent to the principal for cutting up.
97	148.091	Sc/+; Ma/+	At times I have a strong urge to do something harmful or shocking.
300	149.379	Mf-m&f/-	There never was a time in my life when I liked to play with dolls.
49	149.642	F/+	It would be better if almost all laws were thrown away.
124	150.790	K/-; Hy/-; Pa/-; Si/+; Dn/-	Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
167	152.665	Ma/+	It wouldn't make me nervous if any members of my family got into trouble with the law.
127	153.065	Pd/-; Pa/+; Ma/+	I know who is responsible for most of my troubles.
308	154.100		At times I have very much wanted to leave home.
226	154.427	Mf-m&f/+; Ma/+	Some of my family have habits that bother and annoy me very much.
336	155.255	Pt/+; Si/+	I easily become impatient with people.
265	155.753	Hy/-; Dn/-	It is safer to trust nobody.
387	155.931		The only miracles I know of are simply tricks that people play on one another.
162	156.523	Hy/-; Dn/-	I resent having anyone take me in so cleverly that I have had to admit that it was one on me.
355	157.629	Sc/+; Es/+	Sometimes I enjoy hurting persons I love.
282	157.738	Mf-m&f; Sc/+; R/-	Once in a while I feel hate toward members of my family whom I usually love.
290	160.129		I work under a great deal of tension.
419	161.224		I played hooky from school quite often as a youngster.
21	162.565	Pd/+; Sc/+; Ma/+	At times I have very much wanted to leave home.
224	162.848	Pd/+	My parents have often objected to the kind of people I went around with.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
218	163.003	F/+; So/-	It does not bother me particularly to see animals suffer.
249	163.628	Mf-m/-	I believe there is a Devil and a Hell in afterlife.
393	163.975		Horses that don't pull should be beaten or kicked.
13	167.615	D/+; Ma/+	I work under a great deal of tension.
56	167.754	F/+	As a youngster I was suspended from school one or more times for cutting up.
457	169.765		I believe that a person should never taste an alcoholic drink.
244	171.132	Pd/+; Es/-	My way of doing things is apt to be misunderstood by others.
105	175.079	L/-; Ma/-	Sometimes when I am not feeling well I am cross.
45	175.157	L/-	I do not always tell the truth.
311	176.011		During one period when I was a youngster I engaged in petty thievery.
348	176.035	Pa/-	I tend to be on my guard with people who are somewhat more friendly than I had expected.
319	176.359	Pa/-	Most people inwardly dislike putting themselves out to help other people.
38	177.686	Pd/+; Sc/+	During one period when I was a youngster I engaged in petty thievery.
139	180.448	F/+	Sometimes I feel as if I must injure either myself or someone else.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
177	180.581	Mf-m&f/F; Pa/-; Si/+	Most people are honest chiefly through fear of being caught.
329	181.414	Pt/-	I almost never dream.
439	183.141	So/-	It makes me nervous to have to wait.
239	183.662	Hy/+; Pt/+; Sc/+; Ma/+	I have periods of such great restlessness that I cannot sit long in a chair.
558	185.545		A large number of people are guilty of bad sexual conduct.
471	185.907		In school my marks in deportment were quite regularly bad.
383	186.506	K/-; Si/+; A/+; So/-	People often disappoint me.
475	188.356		When I am concerned I tell that portion of the truth which is not likely to hurt me.
307	191.546	Sc/+	I refuse to play some games because I am not good at them.
129	192.488	K/-; Hy/-; Dn/-	Often I can't understand why I have been so cross and grouchy.
42	193.504	F/+; Pd/+; So/-	My family does not like the work I have chosen (or the work I intend to choose for my life work).
470	193.809		Sexual things disgust me.
507	195.537		I have frequently worked under people who seem to have things arranged so that they get credit for good work but are able to pass off mistakes onto those under them.
324	195.700	Sc/+	I have never been in love with anyone.
512	196.390		I dislike to take a bath.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
59	197.650	Ma/+	I have often had to take orders from someone who did not know as much as I did.
247	198.955	F/-; So/-	I have reason for feeling jealous of one or more members of my family.
312	199.006	Sc/+	I dislike having people about me.
341	199.172	Pa/+; Sc/+; Es/-	At times I hear so well it bothers me.
245	199.208	F/+; Pd/+; So/-	My parents and family find more fault with me than they should.
453	199.213		When I was a child I didn't care to be a member of a crowd or gang.
205	199.667	F/+	At times it has been impossible for me to keep from stealing or shoplifting something.
416	199.846		It bothers me to have someone watch me at work even though I know I can do it well.
421	199.855	Es/+	One or more members of my family is very nervous.
314	201.922		Once in a while I think of things too bad to talk about.
120	202.166	L/-; Mf-m&f/-; Ma/-	My table manners are not quite as good at home as when I am out in company.
85	202.865	F/+	Sometimes I am strongly attracted by the personal articles of others such as shoes, gloves, etc., so that I want to handle or steal them though I have no use for them.
342	204.775	Pf/+; Si/+	I forget right away what people say to me.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
338	205.213	Pa/+	I have certainly had more than my share of things to worry about.
136	205.444	Hy/-; Dn/-	I commonly wonder what hidden reason another person may have for doing something nice for me.
197	206.501	F/+	Someone has been trying to rob me.
322	207.104	K/f; Sc/-	I worry over money and business.
216	207.857	Pd/+	There is very little love and companionship in my family as compared to other homes.
252	207.968	F/+; So/-	No one cares much what happens to you.
151	209.483	F/+; Pa/+	Someone has been trying to poison me.
200	209.813	F/+	There are persons who are trying to steal my thoughts and ideas.
157	210.604	Pa/+; Sc/+; Ma/+	I feel that I have often been punished without cause.
215	211.674	F/+; Pd/+	I have used alcohol excessively.
33	212.213	Pd/+; Sc/+; Si/-; Es/-	I have had very peculiar and strange experiences.
331	212.374		If people had not had it in for me I would have been much more successful.
411	212.374	Si/+; A/+	It makes me feel like a failure when I hear of the success of someone I know well.
16	212.639	Pd/+; Pa/+; Sc/+	I am sure I get a raw deal from life.
364	212.874	Pa/+; Sc/+	People say insulting and vulgar things about me.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
43	213.107	Hs/+; D/+; Hy/+; Es/-; So/-	My sleep is fitful and disturbed.
358	213.147	Pt/-	Bad words, often terrible words, come into my mind and I cannot get rid of them.
15	213.357	L/-; Pa/+; Pt/+; Sc/+	Once in a while I think of things too bad to talk about.
327	213.854	Pa/-; R/-	My mother or father often made me obey even when I thought that it was unreasonable.
14	214.198	F/+; Es/-	I have diarrhea once a month or more.
337	214.226	Pt/+; A/+; So/-	I feel anxiety about something or someone almost all the time.
125	214.327	Hs/+	I have a great deal of stomach trouble.
209	214.519	F/+; Es/-	I believe my sins are unpardonable.
94	214.520	Pd/+; Pt/+; Es/-; A/+	I do many things which I regret afterwards (I regret things more or more often than others seem to).
303	214.524	Sc/+	I am so touchy on some subjects that I can't talk about them.
110	214.624	Pd/+; Pa/+	Someone has it in for me.
481	214.933	Si/-	I can remember "playing sick" to get out of something.
44	215.031	Hy/+	Much of the time my head seems to hurt all over.
239	215.248	Pd/+; Mf-m&f/+	I have been disappointed in love.
31	215.424	F/+	I have nightmares every few nights.
263	215.496	D/-; Ma/+; So/-	I sweat very easily even on cool days.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
560	215.718		I am greatly bothered by forgetting where I put things.
108	215.871	Hs/+	There seems to be a fullness in my head or nose most of the time.
548	215.931	Es/-	I never attend a sexy show if I can avoid it.
510	215.955	Es/-	Dirt frightens or disgusts me.
5	216.133	D/+	I am easily awakened by noise.
61	216.352	Pd/+	I have not lived the right kind of life.
202	216.693	F/+; Pa/+; Sc/+	I believe I am a condemned person.
29	216.878	Hs/+	I am bothered by acid stomach several times a week.
339	216.892	Sc/+	Most of the time I wish I were dead.
121	217.006	F/+; Pa/+; Sc/+	I believe I am being plotted against.
349	217.502	Pt/+; Sc/+; Es/-	I have strange and peculiar thoughts.
236	217.549	D/+; Si/+; Es/-; A/+	I brood a great deal.
47	217.672	Hy/+; Sc/+	Once a week or oftener I feel suddenly hot all over, without apparent cause.
106	217.800	Pd/+; Pt/+	Much of the time I feel as if I have done something wrong or evil.
23	217.807	F/+; Hs/+; D/+; Hy/+	I am troubled by attacks of nausea and vomiting.
210	217.967	F/+; Sc/+	Everything tastes the same.
315	217.967		I am sure I get a raw deal from life.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
333	218.009		No one seems to understand me.
52	218.161	D/+; Sc/+	I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.
48	218.238	F/+; Es/-	When I am with people I am bothered by hearing very queer things.
72	218.474	Hs/+	I am troubled by discomfort in the pit of my stomach every few days or oftener.
114	218.946	Hs/+; Hy/+	Often I feel as if there were a tight band about my head.
422	219.192		I have felt embarrassed over the type of work that one or more members of my family have done.
365	219.303	Pa/+	I feel uneasy indoors.
484	219.333		I have one or more faults which are so big that it seems better to accept them and try to control them rather than to try to get rid of them.
519	219.367		There is something wrong with my sex organs.
288	219.414		I am troubled by attacks of nausea and vomiting.
35	219.478	F/+; Pd/+; Pa/+; Sc/+	If people had not had it in for me I would have been much more successful.
273	219.678	Hs/+; Sc/+	I have numbness in one or more regions of my skin.
246	219.792	F/+	My neck spots with red often.
396	219.806	A/+	Often, even though everything is going fine for me, I feel that I don't care about anything.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
168	219.838	F/+; Sc/+	There is something wrong with my mind.
334	219.847	Sc/+	Peculiar odors come to me at times.
182	219.927	D/+; Pt/+; Sc/+	I am afraid of losing my mind.
62	220.000	Hs/+; Es/-	Parts of my body often have feelings like burning, tingling, crawling or like 'going to sleep'.
392	220.166		A windstorm terrifies me.
565	220.435		I feel like jumping off when I am on a high place.
24	220.499	Pd/+; Pa/+; Sc/+	No one seems to understand me.
194	220.544	Sc/+; Ma/+	I have had attacks in which I could not control my movements or speech but in which I knew what was going on around me.
184	220.592	F/+	I commonly hear voices without knowing where they come from.
212	220.612	Sc/+; Ma/+	My people treat me more like a grown-up.
492	220.625		I dread the thought of an earthquake.
325	220.741	Sc/+	The things that some of my family have done have frightened me.
34	220.957	F/+; Es/-	I have a cough most of the time.
191	220.991	D/-; R/-	Sometimes, when embarrassed, I break out in a sweat which annoys me greatly.
323	221.102		I have had very peculiar and strange experiences.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
375	221.264		When I am feeling very happy and active, someone who is blue or low will spoil it all.
535	221.508		My mouth feels dry almost all the time.
189	221.606	Hs/+; D/+; Hy/+; Pt/+; Es/-	I feel weak all over much of the time.
301	221.607	Pt/+; Sc/+; A/+; So/-	Life is a strain for me much of the time.
217	221.861	K/-; Mf-m&f/+; Pt/+; Es/-	I frequently find myself worrying about something.
211	221.894	F/+	I can sleep during the day but not at night.
27	221.959	F/+; Pa/+	Evil spirits possess me at times.
123	22.385	F/+; Pa/+	I believe I am being followed.
418	222.496	A/+	At times I think I am no good at all.
328	222.540		I find it hard to keep my mind on a task or job.
350	222.631	Sc/+	I hear strange things when I am alone.
284	224.113	Pd/+; Pa/+	I am sure I am being talked about.
166	22.139	Ma/-	I am afraid when I look down from a high place.
104	224.247	D/+; Sc/+	I don't seem to care what happens to me.
366	224.513		Even when I am with people I feel lonely much of the time.
161	224.662	Hs/+	The top of my head sometimes feels tender.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
413	224.825		I deserve severe punishment for my sins.
414	224.870	A/+	I am apt to take disappointments so keenly that I can't put them out of my mind.
138	225.120	K/-; D/+; Si/+; A/+; So/-	Criticism or scolding hurts me terribly.
448	225.220		I am bothered by people outside on streetcars, in stores, etc., watching me.
346	225.246	Pt/+	I have a habit of counting things that are not important such as bulbs on electric signs; and so forth.
179	225.383	Hy/-; Ma/+; Dn/-	I drink an unusually large amount of water every day.
431	225.595	A/+; So/-	I worry quite a bit over possible misfortunes.
297	225.736	Mf-m/+,f/-; Sc/+	I wish I were not bothered by thoughts about sex.
251	225.800	Sc/+; Ma/+; Es/-	I have had blank spells in which my activities were interrupted and I did not know what was going on around me.
76	225.839	H/+; Pt/+; Sc/+; A/+	Most of the time I feel blue.
278	225.881	Mf-m&f/+; Si/+; A/+	I have often felt that strangers were looking at me critically.
384	226.019	Es/-; A/+	I feel unable to tell anyone all about myself.
159	226.184	D/+; Pt/+; Sc/+	I cannot understand what I read as well as I used to.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
543	226.257		Several times a week I feel as if something dreadful is about to happen.
544	226.270	Es/-; A/+	I feel tired a good deal of the time.
459	226.634		I have one or more bad habits which are so strong that it is no use in fighting against them.
526	226.635		The future seems hopeless to me.
559	226.866	Es/-	I have often been frightened in the middle of the night.
356	226.909	Pt/+; Sc/+; A/+	I have more trouble concentrating than others seem to have.
351	226.983	Pt/+	I get anxious and upset when I have to make a short trip away from home.
473	227.247	Si/+	Whenever possible I avoid being in a crowd.
305	227.248	Pa/+; Pt/+; Sc/+; A/+	Even when I am with people I feel lonely much of the time.
156	227.314	F/+; Sc/+; Ma/+; R/-; So/-	I have had periods in which I carried on activities without knowing later what I had been doing.
359	227.472	Pt/+; Si/-; Es/-; A/+	Sometimes some unimportant thought will run through my mind and bother me for days.
494	227.599	Es/-	I am afraid of finding myself in a closet or small closed place.
332	227.837	Sc/+; Si/+	Sometimes my voice leaves me or changes even though I have no cold.
374	227.925	K/-; A/+	At periods my mind seems to work more slowly than usual.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
360	227.938	Pt/+; Sc/+	Almost every day something happens to frighten me.
555	227.979	Es/-; A/+; So/-	I sometimes feel that I am about to go to pieces.
186	228.061	Hy/+; So/-	I frequently notice my hand shakes when I try to do something.
32	228.123	D/+; Hy/+; Pd/+; Pt/+; Sc/+; Si/+; Es/-; A/t; So/-	I find it hard to keep my mind on a task or job.
260	228.608	Mf-m&f/-	I was a slow learner in school.
275	228.868	F/+; Pa/+	Someone has control over my mind.
385	229.007		Lightning is one of my fears.
388	229.049		I am afraid to be alone in the dark.
468	229.089	R/-	I am often sorry because I am so cross and grouchy.
517	229.095		I cannot do anything well.
335	229.139	Sc/+; So/-	I cannot keep my mind on one thing.
293	229.140	F/+; Pa/+	Someone has been trying to influence my mind.
525	229.274	Es/-	I am made nervous by certain animals.
389	229.678	Es/-; A/+	My plans have frequently seemed so full of difficulties that I have had to give them up.
84	229.906	Pd/+	These days I find it hard not to give up hope of amounting to something.
553	229.923		I am afraid of being alone in a wide-open place.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
480	230.107		I am often afraid of the dark.
427	230.425	Si/+	I am embarrassed by dirty stories.
292	230.464	Hy/-; Si/+; Dn/-	I am likely not to speak to people until they speak to me.
395	230.551		The future is too uncertain for a person to make serious plans.
390	230.650		I have often felt badly over being midunderstood when trying to keep someone from making a mistake.
397	230.707	K/-; A/+	I have sometimes felt that difficulties were piling up so high that I could not overcome them.
344	230.711	Pt/+; Es/-; A/+	Often I cross the street in order not to meet someone I see.
518	230.724	A/+	I have often felt guilty because I have pretended to feel more sorry about something than I really was.
142	230.765	K/-; D/+; Pt/+	I certainly feel useless at times.
442	231.001		I have had periods in which I lost sleep over worry.
354	231.006	Sc/+	I am afraid of using a knife or anything very sharp or pointed.
291	231.071	F/+; Pa/+; Sc/+	At one or more times in my life I felt that someone was making me do things by hypnotizing me.
86	231.072	D/+; Pt/+	I am certainly lacking in self-confidence.
10	231.557	Hy/+; Pt/+	There seems to be a lump in my throat much of the time.
326	231.832		At times I have fits of laughing and crying that I cannot control.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
352	233.005	Pt/+; Sc/+; So/-	I have been afraid of things or people that I knew could not hurt me.
147	233.248	Hy/-; Si/+; A/+; Dn/-	I have often lost out on things because I couldn't make up my mind soon enough.
487	233.281	Si/+	I feel like giving up quickly when things go wrong.
530	233.563		I am often afraid that I am going to blush.
345	233.646	Sc/+; A/+	I often feel as if things were not real.
41	234.178	D/+; Pt/+; Sc/+; A/+	I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going".
363	234.377	Sc/+	At times I have enjoyed being hurt by someone I loved.
357	235.057	Pt/+; Si/+	I have several times given up doing a thing because I thought too little of my ability.
171	235.141	K/-; Pd/-; Ma/-; Si/+; So/-	It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of things.
549	235.178	Si/+; So/-	I shrink from facing a crisis or difficulty.
256	235.275	F/+	The only interesting part of newspapers is the "funnies".
227	235.615	F/+	I have been told that I walk during sleep.
50	235.619	F/+	My soul sometimes leaves my body.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
343	235.772	Pt/+; A/+	I usually have to stop and think before I act even in trifling matters.
361	235.950	Pt/+	I am inclined to take things hard.
304	235.988	Pt/+; Si/+; Sy/-	In school I found it very hard to talk before the class.
368	236.114		I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.
541	237.483	Es/-	My skin seems to be unusually sensitive to touch.
267	237.547	K/-; Hy/-; Ma/-; Si/+; A/+; So/-; Dn/-	When in a group of people I have trouble thinking of the right things to talk about.
22	238.417	Pa/+; Pt/+; Sc/+; Ma/+; Es/-	At times I have fits of laughing and crying that I cannot control.
241	238.782	D/-; Sc/+; Es/-; So/-	I dream frequently about things that are best kept to myself.
172	239.534	Hy/-; Si/+; Dn/-	I frequently have to fight against showing that I am bashful.
259	239.931	D/+; Sc/+; A/+	I have difficulty in starting to do things.
255	241.790	L/-	Sometimes at elections I vote for men about whom I know very little.
444	241.903		I do not try to correct people who express an ignorant belief.
213	242.475	Hy/-; Mf-m&f/-; Dn/-	In walking I am very careful to step over sidewalk cracks.
82	242.624	Pd/-; Si/+; Es/-	I am easily downed in an argument.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
180	243.688	K/-; Hy/-; Pd/-; Ma/-; Si/+; Dn/-	I find it hard to make talk when I meet new people.
545	245.462		Sometimes I have the same dream over and over.
443	246.040	A/+	I am apt to pass up something I want to do because others feel that I am not going about it in the right way.
551	246.838		Sometimes I am sure that other people can tell what I am thinking.
377	247.065	Si/+	At parties I am more likely to sit by myself or with just one other person than to join in with the crowd.
67	247.115	D/+; Pd/+; Pt/+; Si/+; A/+	I wish I could be as happy as others seem to be.
158	247.520	D/+; Pa/+; So/-	I cry easily.
499	250.105	A/+	I must admit that I have at times been worried beyond reason over something that really did not matter.
509	251.074		I sometimes find it hard to stick up for my rights because I am so reserved.
321	251.139	Pt/+; Si/+; A/+; So/-	I am easily embarrassed.
455	251.641	Si/+;	I am quite often not in on the gossip and talk of the group I belong to.
511	254.122	A/+	I have a daydream life about which I do not tell other people.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
382	254.446	A/+	I wish I could get over worrying about things I have said that may have injured other people's feelings.
531	254.494		People can pretty easily change me even though I thought that my mind was already made up on a subject.
408	254.606		I am apt to hide my feelings in some things, to the point that people may hurt me without their knowing about it.
91	255.131	Pd/-; Si/-	I do not mind being made fun of.
564	256.483	Si/+	I am apt to pass up something I want to do when others feel that it isn't worth doing.
467	256.551		I often memorize numbers that are not important (such as automobile licenses, etc.).
433	257.050		I used to have imaginary companions.
201	257.499	Hy/-; Pd/-; Si/+; Dn/-	I wish I were not so shy.
90	268.864	L/-	Once in a while I put off until tomorrow what I ought to do today.
100	269.219	Ma/+; Es/-	I have met problems so full of possibilities that I have been unable to make up my mind about them.
26	271.615	Hy/-; Mf-m&f/- Dn/-	I feel that it is certainly best to keep my mouth shut when I'm in trouble.
141	275.152	Hy/-; Pd/-; Dn/-	My conduct is largely controlled by the customs of those about me.
420	278.130	Es/-	I have had some very unusual religious experiences.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
398	280.231	K/-; Si/+	I often think, "I wish I were a child again."
66	281.634	F/+	I see things or animals or people around me that others do not see.
111	282.800	Pa/-; Ma/-; Si/+	I have never done anything dangerous for the thrill of it.
503	286.007		It is unusual for me to express strong approval or disapproval of the actions of others.
40	289.102	F/+; Sc/+; So/-	Most any time I would rather sit and daydream than to do anything else.
362	300.722		I am more sensitive than most people.
237	306.213	Pd/-	My relatives are nearly all in sympathy with me.
70	319.119	Mf-m&f/+	I used to like drop-the-handerchief.
286	322.508	F/+; So/-	I am never happier than when alone.
53	323.707	F/+	A minister can cure disease by praying and putting his hand on your head.
149	328.127	Mf-m&f/+	I used to keep a diary.
394	333.261		I frequently ask people for advice.
489	343.058	Es/-	I feel sympathetic towards people who tend to hang on to their griefs and troubles.
11	347.188	Ma/+	A person should try to understand his dreams and be guided by or take warning from them.
4	348.285	Mf-m&f/+	I think I would like the work of a librarian.

Table D4.1 (continued)

ITEM	ANGLE	SCALE/SCORING DIRECTION	STATEMENT
465	348.454	A/+	I have several times had a change of heart about my life work.
317	349.830	Pa/+; Pt/+	I am more sensitive than most other people.
490	352.642		I read in the Bible several times a week.
58	353.429	D/-; Es/-	Everything is turning out just like the prophets of the Bible said it would.
402	358.826		I often must sleep over a matter before I decide what to do.

APPROVAL SHEET

The dissertation submitted by Joseph F. Smoley has been read and approved by the following committee:

Dr. Samuel T. Mayo, Director
Professor, Founoations, Loyola

Dr. Jack A. Kavanagh
Associate Professor, Foundations and
Associate Dean, School of Education, Loyola

Dr. Ronald Morgan
Associate Professor, Foundations, Loyola

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

4/17/83
Date

Samuel T Mayo
Director's Signature